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LIGHT-TACKLE FISHING

BYRON W. DALRYMPLE

Light-Tackle Fishing

WHITTLESEY HOUSE

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LIGHT-TACKLE FISHING

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LIGHT-TACKLE FISHING

The Boy by the Brook

IT IS OFTEN odd indeed how books come to be written. Or rather, what small influences may give the final impetus to the crystallization of an idea which has been kicking around in a fellow's brain for years.

This book was no exception. And because it seems to me that the reader may often wonder just how and why a fellow sportsman faces the awesome prospect of attempting to write a book for others of his clan, I'd like to tell you how my mind was finally made up. As is often true of decisions which loom large and frightening to the individual, this one was made in a very simple manner.

I had just completed an article on Michigan Perch fishing for one of the outdoor magazines, and had decided to drift over to a very special street corner, where, invariably, a lunch-time

gathering of fly-rod enthusiasts was to be found holding post-mortems. It so happened on this fateful noon that among those present was a certain local Knight of the Angle famous as a Trout fisherman.

"Been out lately?" he greeted me.

"Yesterday," I said. "Picked up a dozen nice Bluegills over at Hart's Lake."

You see, I was brought up on the so-called Panfish, and through the years had learned to think a lot of them, especially on the business end of fly-weight tackle. I had, in fact, felt for a long time that the Panfish deserved a great deal more recognition in the realm of the high-toned Game Fish.

My Trout-enthusiast friend said, "I can't understand it. Hart's Lake is forty miles away. The Cedar River is about the same—and up there the Brookies are taking anything you throw at 'em. Here—" He dug for some snapshots. "Look at these. I caught them last week end up there, on a Coachman."

The pictures were enough to give any fishing gent a thrill. As fine a collection of Specs as ever I saw. Worse yet, for the nerves, I also am what might be called a Trout addict. To me, dry-fly fishing for Trout is a sport *differing entirely*, both in approach and resultant thrills, from all other fishing. That, however, is exactly the point. And so I said:

"They're swell. Wonderful!" Then I added, "But I like Bluegills, too."

Way down inside me something was suddenly shaping up—a certain conception of something I felt should be done. If Trout fishing, or Bass fishing, each in its own way, differs entirely from Bluegill fishing, then Bluegill fishing, in turn, must differ radically from those others. A reasonable and obvious deduction, surely; but what the deduction needed, being such a simple one, was emphasis of some sort which would highlight *how much* and *how pleasantly* the latter differed from the former. Not, mind you,

to detract from the vision of grandeur which comes to one's thoughts when the words "Trout" and "Bass" are heard. Indeed not! But to make possible the same kind of vision in the case of the Bluegill, the Perch, the Crappie, and many others.

I think I must have been grinning somewhat absently and causing my friends to stare at me. You see, I knew what I was surely going to say—and it frightened me. Then, suddenly, I had said it: "Fellows, I think I'm going to write a book!"

When I got home the realization struck me that I had at long last admitted right out loud an idea that I'd been trying to fight down for some time. Now, suddenly, it seemed as though I had to do it—and that's a horrible prospect for a lazy man to contemplate!

All that night Bluegills and Rock Bass, Crappies and Perch were darting around in my head, making little gurgles and bright flashes of color. All their tight-lipped miniature fish-faces wore sad expressions. In my dreams, those quick little fellows seemed forlorn. They were not, and had not been for years, getting the attention they deserved as Game Fish.

They were tired of being lumped together, in the last short chapter of the book, as "The Panfish," as if the author had stuck them in for the kiddies only, or simply to round out his survey of the freshwater inhabitants of lakes and streams. They wanted to see the word *PANFISH* printed in big letters and right smack in the middle of the front cover. They were tired of being forced to struggle with bunglesome, bright-painted bobbers in order to get hooked, and of having their heads yanked nearly free of their small carcasses by fifteen-foot cane trees. They felt they deserved the offer of something better, more refined, in line of both tackle and recognition.

There were other matters on which they had definite opinions, that night in my dreams. They wanted to be known as intimately and with as much respect as the famous and wonderful Trout or

Bass or Musky. They were wearied of being inconsequential. In short, the Panfish wanted a voice and a vote.

When I awoke next morning, I decided for good and all. Humble though my attempt might be, I was going to try to assist in giving the little fellows that voice and that vote.

Now, if you wonder why I speak of it as an awesome adventure to contemplate, just ponder for a moment what a big nation ours is, how many thousands of lakes and streams and ponds it has, and how many millions of fishermen, old-timers and modern experts and beginners, each and every one of them knowing something I don't know, or having an altogether different opinion about the things I do know.

Already my head was swimming. I had traveled this old United States a good bit in the past few years. I knew the feel of lakes in Minnesota, Iowa, North Dakota, of streams in Ohio, California, Indiana, Tennessee, places where it had been my good fortune to wet a line. I recalled the pond in Arizona which had given me an odd sort of pleasure, the "crick" in Missouri, the river in Kansas, the numberless tiny lakes in Michigan with terminal tackle of mine buried in bottom mud or caught among lily pads.

I recalled the South Carolina gentleman with whom I once talked, who told me his method of fishing for Bream—"Brim," he pronounced it—and who suddenly and haughtily withdrew from the conversation, because I had called his "Brim" a Sunfish. I remembered the old gentleman near Columbus, Ohio, who had scoffed at my artificial spiders. "Catawbies" were the *only* Bluegill bait worthy of the name!

How could one writer possibly put down all the knowledge and refute all the lack of knowledge extant in the Panfishing world? Well, I don't suppose one writer could. But one could at least attempt to build the framework of the Panfishing *idea.*

That idea, as I conceived it, should be a very special kind of angling philosophy, first and primarily, woven in among infor-

mation and fishing methods about and for our common fishes. Technical information, I felt, should be held to a minimum. If you, the reader, could be made to feel enthused about our common fishes, certainly a worthy purpose would have been served for both you and me. There are such excellent books from which one with newly found thirsting after technical information—of the science of Ichthyology, or of the intricacies of classical angling—may slake that yearning.

This, then, should be a book for you, the reader, to digest casually and, it was my hope, with growing enthusiasm for its finny subjects. Statistics, weights, measurements, scientific data, lengthy keys to identifications—these, for the most part, you should have to dig from their decorous sources, each of you according to your depth of desire. This was to be a volume for every Boy by the Brook, whether he be six or sixty; for what human being walks the earth, rod in hand, in search of fishable waters, who does not hark back in spirit at least to the proverbial kid with the cane pole?

And so now, I should like to lay the foundation for this panfishing idea of ours, this philosophy of angling for the common fishes, by telling a tale of Trout. That may seem an odd way to begin a book about the Panfish. But you will see why, presently . . .

This is a story about my old friend, Joe Pichotte, who simply never fishes any fish but Trout. About Joe Pichotte, who works in a Michigan factory, but who was born on a ranch eight miles from nowhere in Montana.

A small, fast mountain stream, full of deep pools, pressed its willowy banks practically against the back porch of the house where Joe was born. It was an unknown trickle of water, unangled and unsung. It was Trout water.

From the time Joe could walk, he knew that stretch of swift water with the intimacy and understanding gained only through

the sort of companionship very small boys have with inanimate things. There was a smell, or a sound, or a sight, or the feel of certain vegetation under foot which made each straightaway, each pool, each bend an individual, so that to him this stream was a living, active companion, mysterious and at the same time intimately known.

Joe watched the Trout jump for hoppers and flies and gnats. When he was very small, those Trout were simply a part of this companion of his, the stream. But Joe grew a little, and his knowledge grew, and with it his ideas as to what should happen to a fat Trout. Slowly it occurred to him, as it must to every embryo angler, that there should be some way to catch those Trout, and that catching them should be great fun. Why, even the thought of it was thrilling!

So now, Joe decided to put his mind upon a way to catch those fish. They were such marvelous fish. Look at the way they leaped for flies, breaking fast water into spray, showing their brightly polka-dotted sides. See how they lay absolutely still, heads bucking the swift current, waiting for food. Why, that couldn't be done! It wasn't possible! But they did it. And see how they darted! The eye could not follow the pattern they made in white water. Indeed, they were marvelous fish.

But they were not marvelous because they were a certain *kind* of fish. That is, there was nothing *particularly* exciting about them just because they were Trout. Because to Joe they weren't Trout. They were just fish. The fish in the stream by the back porch. They were, in fact, the only kind of fish that Joe had ever seen or heard about. He had no other species with which to compare them.

Yes, they were exciting and wonderful animate beings, and Joe aimed to catch himself a couple, somehow. He aimed to catch a couple of those things that were like what it said in Pa's big old dictionary a fish was. If only there could be found a way to get your hands on 'em when they jumped for a gnat or a hopper!

Why, that was it, of course! Joe was going to become a fly-fisherman. Only he didn't know it. He didn't know, really, what a fly-fisherman was. This simply seemed the obvious way to get hold of one of those speckled fish which leaped so fine.

Follow the kid now, closely, for this is the way fishermen become the kind of anglers they are, each in his own individual manner and thought and philosophy. Follow him, too, because there is another kid coming up in a moment, one who watched another kind of fish and knew another kind of stream, back there in the good past, and came, too, to have his philosophy of fishing, which was not like that of the Pichotte kid at all.

Young Joe was taking the right tack—just as you will see in a moment that the other kid did, too—fitting his method to the most obvious food and action of the fish. First, Joe cut a shaft of whip-limber willow from beside the stream. He trimmed it meticulously, right out to the very slender end. Now, from the stable, he garnered a ball of harness thread, some the hired man had already run the chunk of beeswax down.

Joe's was no fishing family, and anyway, Joe's father was not one to believe that boys should be dreaming their time away, not when there was worthwhile work to be done. So all of the plans for fooling those Trout were conceived in secret. Or would have been, had it not so happened that the hired hand found them out.

And lucky that was, too, for he produced a tiny fish hook and suggested worms. But Joe knew better. Those fish jumped out of the water and gobbled hoppers, didn't they? What would they want with worms?

The rest was easy, far more so than it would be nowadays in our much-fished waters. Joe simply stuck the hook into a hopper and tossed his harness-thread line out upon the ripple where the Trout were jumping. There was no fancy cast, no knowledge except that to get the bait to the fish was the most important action going on in the world at that moment.

There was no waiting, either. The hopper disappeared in a dimple of splashing, gurgling water; the willow shaft lunged down and bent double. The waxed thread sawed the current—and the whip-limber willow broke in the tough way green wood breaks, tearing, yet somehow holding together.

By now Joe was too excited to think of anything except getting that fish to the bank. With the slashing pain of anxiety twisting his immature "innards," he pulled in the shattered pole, hand over hand, and then he had the line in his grasp, and seconds later the gleaming, bright-spotted creature was threshing in the grass at his feet.

Then he was touching it—actually touching it, putting his hands upon this living thing he had wanted so badly. And finally he was running to the house, holding this quick, strong Trout in both fists. Joe, the Pichotte kid, was a fly-fisherman, running hellatelarrup home from old Ike Walton's kindergarten, beside himself with the ecstasy of wanting to show the folks proof of what he had accomplished, this first day in school.

If you could see Joe today, you'd find he hadn't changed much, really. Oh, his tackle is better; but if you bumped into him almost any summer week end, somewhere along Michigan's famed Au Sable, or Cedar, or Tobacco, or Rifle, or Sugar, or Manistee, you'd find him just as enthused.

You'd see the same flash of frantic ecstasy in his brown eyes when he brings in a Brookie or a Rainbow. You'd see a love of sport woven from the memories of many summers, in the very way he runs his fingers along the sleek, glass-smooth sides of a fat Spec. You'd see, too, an absent, disinterested expression come to his weathered face, if you tried to get him to rise to Bass or Bluegill conversation.

Not that Joe is a radical. He's tolerant, but indifferent to any fish or method of fishing other than Trout and flies. When Trout season closes, Joe's fishing stops dead.

The reason is obvious. Joe's graduation to the realm of the expert fly-fisherman was a natural development. Throughout the years he merely refined and tempered the method of fishing which the fish themselves had put into his mind long ago. His enthusiasm for Trout, and lack of it for all other fish, was a natural outcome. Joe lives those nostalgic days of childhood all over again, whether consciously or not, each time he wets a boot in the Cedar, or wherever. Boyhood influence, impressions of formative years, have molded his appetite, held him to the straight and narrow. Gray hair and all, Joe is still the Boy by the Brook.

So now let's leave Joe, and pick up that other lad already mentioned, who left barefoot tracks in the soft bank of another and far different kind of stream. You will begin to see why you had to hear about Joe, when you make the acquaintance of this other kid.

The earliest memories of the man who was once this other kid are of a river, the most wonderful, sluggish, nondescript old river ever a fish called home. Not a large river. The Flint, in Michigan, to be exact. Between banks lined with tall and often leaning elms, with willow thickets, beech, maples, and brambles, it nudges its devious and unplanned course across fine farm lands, making shady pastures for cows, haven for muskrat and mink and coon. Sometimes it seems almost to have forgotten, in drowsiness, where it had set out to go, so that now and again it turns back nearly upon its own channel, forming perfect oxbow loops and lazy angles.

Here mint and arrowhead, blue flag and watercress grow in abundance; and upon the great gaunt gray blowdowns lying half submerged across its slow current—the ones from beneath which decades of flood and high water dredged support—dull green moss clings, its color, even, suggesting a feeling of age and yawning ease. Beneath those logs, or among arrowhead stalks in the shallows, or pressed against the boulders embedded in the mud

bottom of leaf-strewn pools, there are the most wonderful fish in the whole world.

Big fish? Oh, sometimes. But not often. Mostly they are green-and-yellow Sunfish, red-eyed, dark-mottled Rock Bass, tiny, perky-looking Pickerel and leering, pale-spotted Pike, fat black Bullheads with yellow bellies glinting, green "river" Bass (as the kid called them), and silvery-sided, whistle-mouthed Suckers. All together, they are the most beautiful, the most exciting fish ever the Good Lord put gills on.

In the beginning this kid used to lie in the tall grass of a steep-cut bank and watch for flashes of fins in the silt-sifted sunlight, wondering what they were, wanting them. But that was before he found out about the old woman with the cane pole.

This old one would come each day to sit upon the riverbank, half dozing, patient, never hurrying with a single motion. She would take a wriggling pink worm and turn it deftly upon a hook. A hand-whittled bobber gave rugged support to the small bolt sinker, keeping it just off the bottom, so that the pink worm might wriggle itself white in the slow wash of brown water.

The first time the kid worked up enough nerve to approach the old woman closely, he came upon the most awe-inspiring scene ever to greet his wide eyes. Beside the old woman there was a small pile of fish. They were green and blue and red and yellow and spotted and black and silver—all at once, all of them together, now and again flipping their tails in the grass. It was exactly as though a rainbow with fins and scales and wide-popping myriad eyes had broken apart and scattered here in the lush grass.

The old woman said, "Sit down, boy." And then, as he still stood and stared, "Ain't you the boy from yonder house?"

There was no answer. "Cat got your tongue, boy?" she asked.

He dropped down into the grass and sat very still, watching every move, not talking. But his heart was pounding and he reached out hesitantly to put one finger upon the wonderful, amazing yellow-green fish nearest him.

Just then the old woman came up short with the pole. It bent a bit, stubbornly, following to the side as the white line led it. There was no unwieldy, home-whittled bobber in sight now.

The kid leaped up, and speech found him readily enough. "You got one! You got one!" he yelled at the top of his lungs, trying to run every which way at once.

The old woman, intent upon the business at hand, started up like a stone-pecked coon hound at the abrupt sound of his voice. The pole half dropped. The line went limp. Slowly she withdrew the empty hook and with quiet stoicism began to re-bait.

The boy backed away, his face as red now as the staring eye of the Rock Bass flipping its tail at him. The old woman looked up, but her expression had no barb to sink into his shame-prickled hide.

"Never you mind, boy," she said. "It was a big one, right enough. But the big one always gets away. 'Twa'n't no fault of yourn. 'T'was me got excited and lost it."

She put down her pole then, leaving the new worm to wriggle in the grass. She stood up, and she gathered the rainbow of fish into a small basket. "Here, lad," she said, "you take these home to your folks. I've got all day. I'll catch more for our suppers. Tell 'em the old woman on the Kile place sent 'em. Tell 'em—"

But the kid was halfway to the plank bridge by that time, lugging the basket, making the loose pebbles rattle with his bare feet. There was no time for "Thank you"—not then. If he'd waited one second, he'd surely have blown up and busted, he was that excited. Hellatelarrup he went, alive with new knowledge and yearning, frantic to tell the folks yonder about the scaly rainbow there in the basket.

It was not long thereafter that this kid had a pole of his own, a crude one to be sure, but for yanking Panfish from a crook in the Flint it was a grand invention. A hook and a cork and a hank of line served as equipment abundant. Sunfish and Bullheads, Suckers and Rock Bass reposed on a forked stick often those days

when the sun went down; and the garden patch was forever potholed from the digging of wriggly pink earthworms.

Now it could not be said that this kid was a fisherman of refinement. Neither his equipment nor his methods were fitted to cultured fishing. It seemed in those days that a bite and a plunging bob and a tug and a yank were sport enough, what with the sun shining and the trees green, the good smells and sights and sounds abounding.

And anyway, fishing was primarily for the purpose of catching fish; that is, you went to the river certainly with no anticipation of coming home empty-handed. So what matter how rudely or daintily you took your catch?

Fly fishing and plug casting and all such nonsense were unheard of among the barefoot bank-sitters along the course of the Flint. There was not one refined panfisher among the lot of them, old and young alike. And so it was that the kid grew and the years skipped down the ripples of the old river. The old-timers continued their sitting and spitting, and their sons, many of them loath to change and newness, year after year sized up the small collection of bamboo poles which leaned against the side of the village hardware store.

Today you'll find a good few of them still at it, cruising the banks of the Flint—and who knows how many hundred other rivers?—with their clod-stained boots, bamboo aslant strong shoulders. But something happened to this kid the day he saw the stranger flicking a contrary contraption up under the willows and playing pranks on foolish Pickerel.

That's another story, and it has no place here at the moment. Suffice to say that the kid had a vision. He decided to acquire what might be called a formal education in the Art of the Angle.

All of which brings us around to putting young Joe Pichotte and this kid up for comparison. Do you see how easily it followed

that young Joe should graduate to higher learning? His fish was tailor-made for the job. He needed only to acquire a better pole, substitute a fine line for saddle thread, buy a hook covered with feathers to replace the live hopper. Luckily for young Joe, his fine game saved him the need of a grand conception, showing him the way to sport aplenty. He simply followed his nose into his fishing world, carrying the influences and excitement of reminiscence with him.

This other kid, though—and thousands like him—had to have an idea. And really quite a *big* idea, at that. Perhaps they picked it up, subconsciously, from the graduates of young Joe's school. Who knows? Yet, childhood influence was strong in him, too; as strong as the oaks by the Flint. He, therefore, had to dig and try, trial and error. There were no fine books on the refined art of Panfishing for him to read as he grew older. Panfish were boys' fish, and as such were to be for the most part put aside when a kid came of reel age. The learned treatises were mostly given over to the beautiful Trout, the battling Bass, aristocrats of the Game Fish world—with the little fellows plumped down in a rainbow heap near the index.

So now, the Good Lord bless the sporting soul of old Joe Pichotte, and toss in an extra bit of blessing for his dashing Game Fish, too. But for the kid by the Flint, let him have a batch of bright-daubed Bluegills mixed in for good measure. Not, to be sure, on a bamboo yanking-pole. No, Panfishing with *refinement* is a conception of greater rank.

Many of us, I feel certain, have failed to make the most of that conception, if indeed we have examined it at all. We have a wondrous heritage of sport literally swarming around us, darting in the shallows and the calm waters and the ripples of every lake and pond and stream. The small, fighting bundles of fish life abounding there await us with a real sporting proposition to offer. We must, however, bring to them something of intelligence for

what they have to give. They are fine fish, delicate fish—and they require a delicate approach.

There, it seems, is where the mass conception of Panfishing got off to a bad start years ago. How many times we hear the Panfish mentioned with an almost derisive twist to the enunciation. Presumably, the term means the opposite of Game Fish. But wait—why should that be true? Aren't Game Fish so called only because they are *made-to-order* fighters? Could it not be that the fault lies not with the Pan*fish*, but with the Pan*fishermen?*

Indeed, it could. We may, with pleasant study, learn that those fish usually recognized as Game Fish are not the only excellent sport fish, and by so doing we'll remove the stigma from the term "Panfish." If we must specialize—as what fisherman doesn't, eventually—let us do so without prejudice. Let us come to know so much of what the little Panfish have to offer that their name will at least be a badge of merit, not a libel.

Let us, then, become acquainted intimately with the Panfish; first, if necessary, with tolerance, and then—who knows?—perhaps with eager enthusiasm. Let's unlearn the rude techniques of childhood, forget the cane-pole traditions of the horse-and-rig era, and attend the fashioning of grand sport not tailor-made. We may do just that, I believe, by setting about our task right here in a casual, easy-going manner, with perhaps the merest taste of the technical and the scientific as a means of directing the enthusiasm of those who may choose to go on toward depth in ichthyological learning.

Possibly we may, talking it over together, gain an enthusiasm for *all* of our native fishes, relearn something many of us may have forgotten—that fishing is primarily for fun! You see, in one sense the invention of sport fishing for those fishes not usually classed as Game Fish is a greater art than any of the others. Taking a grinning Pickerel on a streamer fly is really a bigger *idea* than taking a fat Trout on the same.

Our Freshwater Heritage

IF IT WERE possible for us to see, from an altitude of many thousands of feet and at one glance, the entire intricate water system of our great land, sudden realization of its amazing scope would dwarf all previous conceptions. Seen through the eyes of a fisherman, what a panorama it would be!

The sight would defy every facet of imagination, surpass all hopes and wildest dreams, arouse to racing speed the pulse of the most lethargic, experienced, or cynical Knight of the Angle. Truly, the impossible, the unbelievable, would be there below, spreading out, lacing together, connecting and disconnecting, twining and intertwining, like a giant liquid octopus flung across the earth, its body portion situated perhaps in the basin of the Great Lakes, its long, shining tentacles and sub-tentacles reaching out into every conceivable crevice and corner, with droplets

of clear blue water shaken and splashed from it myriadly, everywhere, to form hundreds of thousands of sparkling lakes and ponds.

How wrong was our previous fisherman's conception of the land! Where now is the great solid sweep of earth upon which we supposed the streams and lakes were overlaid? Here, from our vantage point in space, it looks not at all as we have always imagined it. Its form is now a series of mammoth peninsulas, small, narrow, stabbing spits; long flowing curves of wooded, rock-bound semi-continents—the whole of it scattered, at once apart and clinging together, to form a maze of close-set islands greatly varied as to size and terrain, innumerably dotting our portion of this watery world. Indeed, what a sight this is to the eyes of a fisherman!

See the thousands upon thousands of miles of racing, twisting, tumbling streams, slashing the earth and the deep, black forest. See, too, the wide sweep of the long, slow streams, heavily laden—and the lakes by countless thousands and sizes, dropped without regard to symmetry or design—and the sluggish bayous —and the ponds—the creeks—the tiny potholes.

There, below us, is the limpid, liquid homeland of Nature's enormously bountiful gift to the sportsman, the far-flung, amazingly varied playground of the inland fishes—Our Freshwater Heritage!

What a gift it is! What proportions! What infinite variety! What endless surprises!

Even as the earliest settler pushed ahead into an unknown land, from stream to lake and lake to stream, he found fishes in limitless number and variety. Wherever he put down his hook, his barbed questions drew wondrous and ever-surprising answers. Never did he long for an end to monotony or singleness of species. Nor need he yet today! As the fisherman tires of one kind

of fishing, he has but to alter his geographical position ever so slightly—and his ennui is instantly ended.

Look down once more upon the whole of this Freshwater Heritage of ours. Witness the truth of its unending variety. In that swift blue ribbon, alert Trout dart. In this broad, silt-laden brown swath, lazy Carp and Catfish nudge mudbanks. There, in those scattered, sparkling droplets, thick-bodied Bass lie deep. Pike laze, motionless, in weed beds. Everywhere, drab gray-brown dots and dashes of water hide with poker faces tiny flashes of finned rainbows, the Sunfish, the silvery Calico—Herring, White Bass, Pickerel, Perch—Grayling, Squawfish, Muskellunge, Smelt—Walleye, Bluegill, Sheepshead, Chub—a seemingly endless entourage of softly rhyming names.

Who now will say, from this master vantage point: "This is a *Game* Fish, and this one is a *Panfish*, and this a *Rough* Fish?" Indeed, given this wide scope of vision, the scene is illimitably changed. The lowly Sucker takes his place beside the brilliant Brook Trout, the Black Bass lies nose to nose with the Carp. Our loose lines of categorical delineation serve only to exaggerate their own carelessness, the depth of our own indecision and incompetence.

Do not our makeshift and ever-changing categories seem now immature? Place all of our fishes side by side in this huge showcase; study them a moment. Run your eye down the line.

Look, here are the wonderful Trout. But beside them—what are these? Why, these silver-plated, pink-finned ones are Sheepshead. Common, sluggish old Sheepshead. But note how really well they compare, in their own conservative fashion, even to the beautiful Trout, both for color and design.

Or note these two: the sleek Black Bass and the oft-spurned, ugly Gar. What is now so ugly about him, lying here beside his neighbor? True, for the most part he is useless in regard to both

food and sport. You cannot, however, deny him his wonderful symmetry, nor his luster and truly dainty color. You cannot refute his stubborn perpetuation of his own species, in constant abundance since the long-ago time when his close-scaled skins were used by native tribes to make armor which would turn an arrow point from its owner's heart.

The more you dwell upon it, the more amazing it becomes that we have been so willing to disregard and deny recognition to so many species, while giving places of honor to so few. How could our list of select Game Fishes have stood for so long a time, adamant against aspiring entrants? The amazing part is not, to be sure, that the select list is so short, but that the list of outsiders is so long.

The reason for it lies with the sportsman himself. We are inclined to judge the existing or lacking sport qualities of a fish, without recognizing that we may have failed to split the responsibility with him. Each species has, it is true, only so much to give. How we utilize it is quite another matter!

His actions always remain as a constant, a norm. Ours should not; for, if they do, we are all too prone to see what are really our faults reflected as those of our little opponents.

It is true, also, that we cannot make a sporting opponent out of every species. Try as we may, it is difficult to visualize much of a fishing thrill from the tiny Minnows ordinarily classed as high-water Trout bait.

On the other hand, I can recall instances when I've felt the strike of a seven-inch Shiner or Chub upon a streamer fly which seemed, in the water, as large as its stout-hearted little attacker, and been certain, momentarily, that I was into a legal Brook or Brown. Some of those times, I'll grant you, I was disgusted, especially on those days when it was a matter of all Chubs and Shiners and no Trout. The point is, had I been *fishing* for Shiners, I would not have been disgusted at all—do you see?

Just where, then, shall we draw the line? We know, of course, that the species generally selected to do honors as the best of the *Game* Fish are the Trout, the Bass, and the Muskellunge. In like manner, the *Panfish* usually lump together the Sunfishes, the Crappies, the Rock Bass, the Perch, and some others. The unbounded term *Rough* Fish ordinarily means the Sheepshead, the Carp, the Catfish, the Sucker, and so on.

However, to cinch the argument that our lines of delineation are altogether too arbitrary, just what shall we do, categorically, with the Pickerel, the Walleye, the Great Northern? Are they to reside in a class of their own? Are they to be outcasts entirely, neither Game, nor Rough, nor Pan? Or are they to be shifted about from one group to another, according to the whim of the individual fisherman?

In addition, when does a Rough become a Pan, or a Pan a Game? For that matter, exactly what *is* a Panfish? Is it a fish which will fit a frying pan? How large a frying pan—or how small? Is a Sucker a Panfish, or is it still unfit to associate with its bright-hued brethren, even though it may neatly fit the average-sized frying pan?

You see, what we get into, hip-deep, in this kind of ichthyological third degree, is a hopeless muddle highlighting either our own ignorance, or our truly amazing lack of foresight, inventiveness, curiosity, and exactness. The result is confusion regarding sporting terminology. The muddle has its effectiveness, however: it points up the fact that we should gradually learn how to destroy the *caste system* we've wished upon Our Freshwater Heritage!

Our purpose, in this book, is to get a toehold at least in doing just that. They're mighty fine fishes, the lot of them. If there is pleasure in Trout and Bass, there is also in Bluegills and Perch, and in Catfish, too—plenty of it. And if you disagree with that last, for your own well-being don't tell it to the fishermen along

the lower Mississippi! How much pleasure we derive from any one species is directly proportional to the cleverness-of-approach, which is to say the tackle and fishing-method conception, of the individual fisherman.

Fishing, you see, is for fun and for everybody. Let's not forget that. Therefore, boundary lines should not be drawn by species, but by enjoyment. Ask yourself: "Is it fun to catch 'em?" If the answer is, "Yes," then, my friend, you're angling for *Game* Fish —and don't be talked out of it! Meanwhile, however, don't fail to question yourself further. Could you have more sport by utilizing another method? Are you missing a bet? Have you fairly split the responsibility for your own pleasure, or is your finny friend getting the burden of a bad deal?

In certain cases, notably those of our highly touted Game Fishes, we fishermen have already given careful thought and experiment to methods and tackle, studious observation and research to the fishes themselves. The majority of our fishes, however, have a debt of study and publicity owing them, I'm sure. Most of us are so meagerly schooled in elementary ichthyology that we do not have even a rough picture of what groups of fishes make up this Heritage of ours. Perhaps we might pause here, then, in an attempt to put down briefly a general review of fish families, with close reference to those native to the United States. Once the picture is drawn clearly in our minds, we will begin to see more plainly the material with which we must deal.

Although there are some 13,000 species of fish known to date throughout the world, only 600-odd occur in our country. Some states—perhaps your own native state—have as many as 160 or more species swimming their waters. Illinois, for example, boasts some 150 species.

By no stretch of the imagination can all of our species be promoted to the Game Fish category. In fact, by far the majority of them are useful only as forage for those with which we find



PHOTO BY CLEMENT CROUCH

What fisherman walks the earth in search of fishable waters who does not hark back in spirit to those wonderful kid days beside lake or stream?



PHOTO BY CLEMENT CROUCH

What a bounteous gift from Nature—the thousands of lakes, ponds, and streams, homeland of our freshwater heritage!

sport. Thus the sport fisherman does not really have to know such a frightening number of species, although the forage fishes may be found interesting by those who choose to dig deeply into the whys and wherefores of their sport. The place for such research must remain in the scientific books, for surely we have neither time nor space to devote to it here.

If we go back momentarily to a world view, we discover that science has divided the thousands of species into roughly 200 families, or groups, separated because of structural differences and relationships among the particular species each contains. Many of the families are entirely marine, never entering fresh water. Some others are borderline cases. Their members are made up of both marine and freshwater species, with now and then one which runs freely in and out of both fresh and salt waters, or lives happily in the brackish waters in between. It is the strictly freshwater species in which we are particularly interested here, although certain species, such as the White Perch, obviously must be considered among our Panfishes, although they are at heart lovers of brine. The abodes of such species in fresh waters are adopted or forced, and they are apparently able to adapt themselves permanently to the change.

So then, we in the United States may whittle down the numbers and focus our attention upon only some 30, or fewer, families out of the 200 available the world over. Some of these families are composed of many species. Out of these many, often only one or two are of interest to the sportsman. Some families have but one species native to our latitudes. In this last case, this one species is generally found to be closely related to fossil fishes. It is usually a carry-over from prehistoric times, when its family was at a peak of abundance in both numbers and variety. It has been able to perpetuate itself down through the ages, its very lack of specialization perhaps having adapted it perfectly to any and all conditions of environment, even the most discouraging.

Now look how much easier we still may make an elementary study of fish and fishing; we may whittle down those 30-odd families even further. Note the following families:

1. The Sculpins and Muddlers—*Cottidae*
2. The Surf-Fishes—*Embiotocidae*
3. The Silversides—*Atherinidae*
4. The Sticklebacks—*Gasterosteidae*
5. The Pirate Perches—*Aphredoderidae*
6. The Cave Fishes—*Amblyopsidae*
7. The Top-Minnows and Killifishes—*Cyprinodontidae**

These families are composed of fishes which, while extremely interesting to the serious student, are so small, or rare, as to be outside the realm of an average fisherman's thinking.

Now let us list the remainder of our pared-down subjects and see what we have left. We may be missing one or two families of small importance to the sportsman, but for the most part the following list will cover our remaining fishes:

GROUP ONE:

1. The Salmons and Trouts—*Salmonidae*
2. The Graylings—*Thymallidae*

GROUP TWO:

1. The Sturgeons—*Acipenseridae*
2. The Paddlefishes—*Polyodontidae*
3. The Gar Pikes—*Lepisosteidae*
4. The Bowfins—*Amiidae*
5. The Codfishes—*Gadidae*
6. The True Eels—*Anguillidae*

* In older references, the Top-Minnows and Killifishes are listed as the family *Poeciliidae*.

GROUP THREE:

1. The Croakers—*Sciaenidae*
2. The Gizzard Shad—*Dorosomidae*†
3. The Herrings—*Clupeidae*
4. The Whitefishes—*Coregonidae*
5. The Smelts—*Osmeridae*

GROUP FOUR:

1. The Suckers—*Catostomidae*
2. The Carps and Minnows—*Cyprinidae*
3. The Mooneyes—*Hiodontidae*
4. The Catfishes—*Ameiuridae*‡

GROUP FIVE:

1. The Pikes—*Esocidae*
2. The Sea Basses—*Serranidae*§
3. The Perches and Darters—*Percidae*
4. The Sunfishes—*Centrarchidae*

Now do you see how easy our study of ichthyology may become? The fisherman who has a good knowledge of those 21 families will have a very excellent beginning. We may make it even easier than that by hacking off the Darters, which are included in the Perch family listed in Group Five. They are small fishes, hardly adaptable to sporting methods or tackle. The five Groups, incidentally, are my own. They have absolutely no basis in scientific fact for their separation. It is only for the purpose of making it easy for the reader to see at a glance what groups of fishes surround him that they are so divided. For the purposes of this writing, each group bears a definite relationship, arbitrary though it may be, to sport.

Those aristocratic fishes of the first group we may dismiss from

† In older works only. Recent checklists include it with the Herring family, *Clupeidae*.

‡ Older references give the Catfish family as *Siluridae*.

§ Called the White Bass family, with the scientific name *Moronidae*, in older references.

these pages with a dignified and respectful bow to their popularity and a rousing cheer for their sporting qualities. Volumes have been written about the Salmons and Trouts. They have personally insured establishment of their own place in the world of sport by the wiles of their flashy personalities. The Graylings, though beautiful and intensely interesting, are so Trout-like in habits, and, indeed, so closely related to the Trouts, that they lie outside the scope of our present purpose.

Dropping down to Group Five, we may also omit the Black Bass from the Sunfish family, and the Muskellunge from the Pike family. They, too, have established their right to the term "Game Fish," and have been well propagandized in other writing.

If we touch upon all of those fishes included in Groups Two, Three, Four, and Five, except the ones just mentioned, and do so under the perhaps misleading term "Panfish," it is only for the sake of a tag. Not all of them, I'm afraid, would fit too well into even the largest frying pan available. Presently, however, we shall briefly review each of these last four groups, arbitrary and controversial as they are, so that you may understand exactly why they were all included, and so divided.

Obviously, it will be impossible to give entire chapters to each and every member of Our Freshwater Heritage included in these four groups. So large a volume would be neither practical nor convenient. It is not out of prejudice, therefore, that any single fish is either omitted, or scantily touched upon. One, indeed, is as important as another; but certain ones are more abundant and more widely distributed than others, better adapted to our use as sporting fishes, and therefore of more importance on a grand scale. It is hoped that the variety of fishing methods suggested as a means to greater sport with those fishes dealt with at length, *may be applied or improved upon by your own imagination, in the event that your particular favorite is not awarded the space* you feel it deserves.

"Importance" is, I realize, a touchy word to use in choosing species to bear the greatest burden of writing; for surely there is no fisherman upon the earth so unobserving that he could not rake from memory myriad scenes of persons from all walks of life having fun with all manner of ordinary fishes. Indeed, one wonders when recalling such scenes how it would be possible to make segregations of species according to importance at all. "Importance" has many varied meanings when it is applied to so many individuals.

To each admirer of sport in the great outdoors, some certain species of fish is so completely a part of childhood, or of mature living, that it becomes a common denominator for all his sensory perceptions of the Nature surrounding him. When he thinks of spring, summer, or fall, of lakes, ponds, and streams, of sunshine and growing things, or as he longs for leisure hours, his subconscious so often manages somehow to bring forth a mental picture of his favorite fish at the business end of a line. To him, it represents all of those entities as they touch upon one another . . .

There was the time in Nashville, Tennessee, that a musician friend of mine, who had seen nothing but after-dark hours and the backstage of theatres and the bandstands of nightclubs for months on end, drove into the country to a strange and unnamed creek in the hills, there to sit in the bright spring sun, to dream of kid days long gone, and to devise a method for catching a Rock Bass which swam in the pool at his feet; and, having caught it, brought it proudly back to his hotel, where it was cooked with great ceremony and discussed earnestly for days, yes, weeks thereafter.

There was the time in Wichita, Kansas, out in the beautiful park at the confluence of the Arkansas and the Little Arkansas Rivers, when I watched a Negro couple as they laughed and made love and angled now and then diligently for whatever fish chose to take their bait; and, having excitedly brought a shining

Sucker out upon the grass, ambled off exultant, answering my congratulations: "Man, oh, man, thas eatin' fish fo' real; we got our supper, sho' nuf!"

There was the time in Tucson, Arizona, when I, who had seen and been stunned by the beauty of my first desert spring, longed for the feel of a rod in my hand until it seemed nothing life had to offer could possibly be so important; and, having scoured the countryside for a bit of water in which to wet a line (after finding the Santa Cruz River naught but a watery-sounding name upon a map), came upon a tiny irrigation storage pond some few miles from town. There I sat beneath a tall cottonwood, breathing the good air, witnessing the amazing sights and sounds of desert life and growth, dreaming of fishing and fish—and fishing, too, right there in the pond—hoping against hope for even the tiny tug of a small minnow upon my line, though I knew it was to no avail.

There was the time in some forgotten hamlet down in the hills of southern Indiana, when I paused to watch a shoddy carnival unloading beside the village park; and saw one husky tent-hand mysteriously rushing with his work; and watched him grab a short cane pole and hurry to a nearby creek. When I'd joined him and watched him yank out and toss back tiny Bullheads for perhaps a quarter-hour, inquiring at last just what it was he hoped to catch, he gazed long at me, smiling almost sadly, far-off, saying: "This is Chautauqua Lake in April; this is Auburn on Owasco—God, man, it's a long way back to New York State this spring!"

There was the look of yearning in the eyes of the Pennsylvania salesman as he stood on the beach at Santa Monica, California, watching the surf fishermen scramble for Yellowtail, Sand Sharks, and Croakers—whatever the waves might bring them; and the sound of his voice when he turned to me and said: "It's strange fishing, and their fish have such harsh names; they're bigger, yes,

but give me Stony Creek Bream—on a fly rod—any day. These people never heard of *real* fish out this way!"

There was the laughable fight in the Omaha bar, between the Trout-fishing rancher from Montana and the Pike-loving contractor from Minnesota; and the bourbon-thickened remarks of the winner, as he ambled out between two burly cops: "I grew up with Great Northerns; God-damned if he'll call 'em 'snakes' in front of *me!*"

There are sights and sounds of fishermen from coast to coast and border to border, action, arguments, dreams, plans, longings, memories—Perch in North Dakota, White Bass in Wisconsin, Catfish in Mississippi, Sunfish in South Carolina. Over and over, ever and ever, the fleeting glimpses stored away in memory, of fishermen having fun with fishes—small fishes, large ones, important fishes, inconsequential ones. Or are they?

And thus, now, who will dare to say which finned portion of Our Freshwater Heritage shall be elevated to the highest rank, even among the Panfishes? One bayou-man's delight is the taking of small Paddlefish from the mud beds he knows so well; another fashions sport of his own by deftly trapping Gars with a wire-loop snare. Their voices are small, their sports unbeatable—to them. One ridiculed but really most astute fisherman tells his buddies: "If you want a *real* battle, find a spot where Bowfins (Dogfish) abound." Indeed, if that man wants backing, I'd go out on the same limb with him, anytime! Another thrills to the chase of brute-strong Sturgeon dragging a rock to which his line is fastened.

Do you see now, from that paragraph, why I have chosen to list Group Two on a previous page? True, those fishes just mentioned, along with the Freshwater Codfish, known as Ling and Burbot, and the Freshwater Eel, cannot possibly be dubbed Panfishes. They are large, restricted somewhat as to range. Some are good food fishes; some are of no use whatsoever as food. But

you, fisherman, might catch one sometime, while fishing for even so small a fish as Perch. At all times they are important to *somebody*, and at some time they may be momentarily important to you. Thus, we'll plan to spend at least some small space and time in looking more closely at them.

Group Three introduces us to a mixture of fishes of smaller size as a whole, some of them with restricted ranges, all of them with some importance as food fishes, a portion of them forming *one of our most important sources of food fish commercially. All of them are possible as legitimate sporting fish, but few have char*acteristics which particularly adapt them to the best quality sport fishing, in the true sense of the term. Nonetheless, they deserve a certain amount of advertising space, and that they shall have, Panfish or not.

Group Four might be termed an orphanage, for truly its members, so lumped together here, are Orphans of the Sporting Angle. The lowly Suckers on their spring spawning runs "get theirs" with spear and jacklight in many latitudes. The Carps are cussed and discussed and little fished by blooded sportsmen—and yet, one of their relatives of the Minnow family, the Squawfish, takes a fly from his admirers in his restricted range like a veteran Trout, putting his one to ten pounds of Minnow to test in as good a battle as one might come by. The smaller and beautiful Mooneye is as game as they come, suited to refined angling methods, yet of practically no use as food. The Catfishes, from small to huge, are disdained by thousands both for fishing and eating, yet they are fished with enthusiasm and as eagerly eaten by thousands of others. Certainly they deserve a chapter to themselves; and the others, too, shall have their day in their proper places.

It is in Group Five, however, that we discover the most active, sprightly, best-loved of our less-publicized freshwater fishes. If, indeed, we may make one more sub-classification, these might be

called, for want of better terminology, the true Panfishes. And they, of course, shall demand our greatest space and attention.

Choosing one of them to head the list is a difficult decision, especially when, as one considers them singly and without comparison, they *all* seem to have been favorites at one time or another. In compliment to the entire group (and we really should lift the Catfishes over into this group momentarily), it may be said that these Panfishes are truly our most important freshwater *fishes. Literally millions of people fish for and catch them. The* same millions eat them. The same millions pour license revenue into the all-important conservation pot. The skillet tally of these Panfishes would far surpass the catch of all other anglers' fishes lumped together.

Resort owners receive billions in vacation money from the masses of people content to take a few Bluegills or Bullheads while sunbathing on their piers. The money spent by our 12 million-odd fishermen toward fulfillment of their angling desires makes fishing, from an economic point of view, our most important national sport. A lion's share of that money winds up with the evidence of its spending in strings of Crappies, Sunfish, Perch, etc.

The property owner is heir to a very real, though hidden, asset in the Panfish which fill his ponds and creeks. Their place in the ecological scheme of things is an important cog in the machinery of Nature which puts value upon his land. To the conservationist who works with other and larger Game Fishes, the Panfish are indispensable. They give people something to fish for, while he works; and they serve as food for his less prolific plantings.

To those ever-multiplying thousands of private-pond enthusiasts, the Panfish are little short of a God-given blessing, a miracle come true before their eyes. The Sunfish, the Perch, the Bullhead, the Bluegill—these will thrive to supply food and sport

with a minimum of expense and attention. Looking at the Panfish against such a backdrop of varied usefulness, they immediately assume added stature.

Stature? Perhaps we should discuss them, then, according to size. Ah—no! Too well I remember how disappointed I was, as a lad, to learn that Suckers were really not considered the finest fish in the whole world, after all. To me this was amazing, for surely they were the largest. They *must* be, for they were the largest I had ever caught!

On the more practical though far less pleasant and romantic side, we may consider them in order of abundance and breadth of range, coupled with attributes of fishing methods possible, numbers of people who fish them, and relative value to sport. In this respect it would seem to me that *as a group* the Sunfishes are of the foremost importance to the greatest number of fishermen and potential fishermen. What corner of our land cannot boast some member of the clan, native or introduced, if not in the immediate vicinity, then surely in a bordering state or river?

The Sunfishes include not only the Bluegill and his "Punkinseed" cousins, but the Crappies and Rock Bass as well. This would seem to breed another argumentative question: Which one of the lot of them is the best and most eagerly sought-after fish?

Popular opinion—and a certain amount of studious research, too, for that matter—has it that the Crappie is the most abundant over a wide range, and therefore angled for by the greatest number of fishermen. His astounding list of colloquial names would seem to bear out the truth of the supposition. Surely he must be known and fished in many places, else he could not possibly have collected such a conglomeration of monikers. His rather large size (as Sunfishes go), coupled with his congenial personality when confronted with almost any kind of bait or lure, puts him high on our list of fisherman's fishes. For sport and variety of method possible with Panfish, you cannot beat him.

The Common Sunfish—and his close relatives bearing the Sunfish name—seems to have gained a reputation as a boy's fish. Certainly no boy could ask for a better companion at the end of his line; but human-interest propaganda has linked the two so solidly that Sunny's sporting qualities suffer. Just recently I took Bluegills and Sunfish of tremendous size, both from the same lake—a mixed bag, so to speak—and very carefully tested the fighting qualities of each. In this instance, the extremely large Sunfish outdid their more sprightly cousins by wide margins.

No doubt the affinity of Sunfish for quiet, shallow pools, plus their wide distribution, has assisted in placing kids and "Punkinseeds" together. But the fact that the Sunfish is undoubtedly the most *brilliant* fish a kid catches has aided and abetted the collusion.

Vividly I recall days of sitting by the old river, clutching my cracked cane pole and waiting for a bite. Sandwiched in between Bullheads and Suckers was the occasional and breathless business of hauling in a Sunfish. To this day I would not be able to tell, from a strictly scientific point of view, just which species of Sunfish they were. They seemed such a bright green, with dazzling yellow bellies—the colors, of course, having grown to blinding hues over the years.

Bowing to tradition, then, we'll not try too desperately to remove the Sunfish from its place as a boy's fish. We will, however, ask the kids to share him with us as we attempt to dispel the notion, as popular as it is false, that he is unworthy of a grown-up's sport-appraising glance.

Moving on down the line, we discover that the perky, pugnacious little Bluegill has made quite an altogether different reputation for himself. He is not only abundant over a wide range, but he is, generally speaking, the largest, most active, and toughest of the true Sunfishes. Late years he has poked his grim little countenance so constantly and persistently and belligerently

into the swank Game Fish division as to be *almost* accepted even by the purists.

For his size, and because of his build and his addiction to deeper waters, he is a scrapper without noticeable competition in his own field. During the days while this chapter was actually being written, I often fished for Brook Trout during the afternoon, and for Bluegills toward evening, taking both species with dry flies. Ardent admirer though I am of the Brook Trout, and much as I hate to disillusion Trout men, the Bluegills gave by far the better account of themselves, and on identical tackle at that, even down to the fly itself.

Add to his punch the fact that he is quick to gobble up a variety of lures, and it's not difficult to understand why his popularity is ever on the increase. Fishing pressures have turned a sizable percentage of trade in his direction; and those who have turned to him have been neither disappointed in the thrill of their sport, nor in the aftermath of gastronomic delights. I think we might tag Mr. Bluegill the Panfish most all-round fun to catch, and not thereby raise too heated an argument.

Just for the moment we will avoid the Rock Bass (and his blood relative, the Warmouth) in this summary discussion. Never fear—he is most certainly *not* to be left out. In fact, there is a very extra-special spot reserved for him. You will discover it presently, and thereby understand the reason for the hush-hush in his behalf just now.

Hurdling Old Redeye then, we leave the Sunfish tribe for a quick look at a fish from another family which most certainly vies with them for a place at the top of the Panfish list—the Yellow Perch. If the Crappie may be tagged as most abundant, the Sunfish as a boy's fish (to be shared with adults, I insist) and the Bluegill as most fun to catch, then the Perch enthusiasts will, I'm sure, loudly acclaim their favorite as the *sweetest-fleshed* fish in the whole world. They may very possibly be right. I'd hate

to choose. But, right or wrong, the Yellow Perch has something else to give his followers, and that is a right good measure of sport!

We might note here that the White Perch, fished in his restricted ranges by numerous Panfishermen, is really not a Perch at all, except in common name. He belongs with the White Basses, and we shall get around to him, too, but in his proper place.

The Walleye, on the other hand, *is* a real Perch, but he can hardly be linked with his smaller relatives; for this bleary-eyed individual is such a big old he-man battler that he calls for a space of print all to himself. You may not be aware of it, but—just to lead you on—he is one of our most interesting fishes, and one on which a lot of Government money has been spent.

The Pickerel and the Pike take their places among the Panfish, in this writing, if for no other reasons than to give a sympathetic voice to an oft-maligned tribe, and to attempt settlement of the confusion existing locally all over their ranges as to just which is a Pike and which is a Pickerel. To be sure, these fishes have their hosts of friends, but much could, and should, be done to dispel the false legends which have grown up about them, and to give them the credit they truly deserve as fine Game Fishes. Especially do they need to be examined more closely by the man with light tackle in his hands.

The White Bass and the Yellow Bass (and the White Perch also) are important to the Panfish clan, not because of the number of people who find them available, which is comparatively small, but because they often make possible, in their rather restricted ranges, excellent sport fishing of a kind which might be entirely lacking without them. Odd it is that the White Bass, in particular, should these days be talked about most in two far separated places—Wisconsin and Texas. There is undoubtedly much still to be learned about both species. It may very well be

that one of these days experiments with them will make limit-fishing available where near-barren Panfish waters now exist. They are not only doughty opponents, but amazing breeders when cultivated in congenial waters.

And now let us turn from the fish themselves to a discussion of those articles which we are surely going to need, if our frying pan is to test its metal. Perhaps we may unearth some new and useful attitudes toward tackle, too.

Light Tackle

LURES

ONCE I WAS rowing slowly around a favorite Pike lake of mine, named romantically enough, Powderhorn Lake, when I happened to see, far across on the opposite side, a struggle of some kind taking place. You could hear staccato, high-pitched shouts. Two people were in a boat over there, one rowing frantically for a moment, then just as frantically backing water with the oars. The other was apparently fast to a fish of unusual proportions.

Curious as I was, I determined not to show it. Luck had been bad enough without having to go through the usual hangdog experience of looking at a string of record fish and being told how to take 'em, while I had nothing to exhibit. In due time, however, I had followed the shore line around so that I came upon the other boat. Now I noticed that it held two youngsters

so small that they really shouldn't, it seemed to me, have been out alone on that lake.

I was now more curious than ever. I couldn't pass them by. Too well I remembered how eager I'd been, as a kid, to show off my catches, or to tell of the mammoth fish I'd *almost* caught. I pulled alongside.

Those freckled kids, one obviously a country lad and the other a visiting cousin, had "great event" written all over their faces. The visiting city cousin held in his hand a light fly outfit which I appraised at a glance as being an unusual tool for a youngster to own. Someone had sunk a lot of dollars in that tackle.

They were so politely waiting for me to ask the obvious question, yet so ready to burst with their news, that I purposely took my time, letting them enjoy that wonderful anticipation as long as possible. Then, "What luck?" I asked.

Both of them began talking so fast and so loud that their words meant little. The farm kid, however, dove into the bottom of the boat and came up with evidence which made words unnecessary. With both hands shoved into the gills of their catch, he gripped it mightily, holding it up for me to see.

It was a Pike, and a beauty. It would have gone a good six pounds. I admired it and judged its weight for them, and said all the fine things I could think of. The city lad had meanwhile quieted down and had assumed a sober, wise, mighty-fisherman attitude laughable to see, especially since he had well noted that my boat was empty of fish.

I said to him: "What did you catch it on, son?"

He hesitated, looked at his country cousin, seemed to grope for words, darted a glance toward a well-filled tackle box, then stammered, "A . . . a . . . Silver Doctor . . . streamer."

I was amazed. "You mean you caught that Pike on a fly!"

The country lad was about to say something, but a look from the other hushed him. Not wanting to spoil their day of great

importance, I admired the fish again, and rowed on. Later I unearthed the key to the mystery, for that Pike was long a subject of discussion around the Powderhorn Lake vicinity.

It seems that the city lad's father was a rather expert Trout fisherman. The kid, having gone to visit his farm-bred relative, had sneaked out his father's fine tackle, the better to impress his young host. They had been catching Perch, and had decided to thread a small one on a big hook. How they ever landed that Pike without smashing the father's light, expensive rod is something I'll never understand.

The moral of that little tale is the very backbone of a thought this volume would like to put into the mind of the average fisherman. The kid had not wanted to say he caught the Pike on a minnow. There was some inhibition, learned from his father, which made live bait seem inexpert and degrading. He wanted to be an expert like his father, from whom, obviously, he'd learned the terms "Silver Doctor" and "Streamer." How many times we've lived like experiences!

How often we've put our worm can out of sight and brought our fly box—if indeed we owned one—out into the open, when nearly caught worm-fishing by a purist friend! How many times we've *talked* in terms of Royal Coachman, Adams, Grizzly King, yet furtively changed to garden hackle, once we were out of sight around the bend! What is there, anyway, about light tackle which presumes that, unless we wish to fall from grace or be sneered at, there must be a dainty fly at the business end?

In the beginning, there were fly rods, conceived for the sole purpose of casting a legitimate fly. The worst thing that could have happened, as far as we average moderns are concerned, was that the term "fly rod" persisted. Those early beginnings are history. The fly rod today, though it continues to serve its original and most worthy purpose, has many and varied uses, a fact often entirely overlooked, especially by those shy sportsmen who are

not fly men. The name "fly rod," and the mental picture which it conjures of the outfit to which it is paramount, contributes to one of the most inhibiting influences upon fishermen who are in search of pure fishing fun!

Well I remember when I bought my first fly rod; how I looked up a lot of terms to use during the purchase. I didn't want the clerk to suspect that I was uninformed about such refined tackle. I know numerous fishermen who have cut themselves off from greater sport, because they were inhibited about admitting before fly-fishing friends that they were among the uninitiated.

Recently I made it a point, during a month of fishing every day on one Trout stream, to talk to every fisherman who checked in at the tourist resort where I was staying. There were many lakes in the vicinity. The majority of fishermen who stopped at this resort were not Trout fishermen. Cane poles and plug rods were mainly in evidence. Yet almost without exception those fishermen exhibited the same reactions to my talk.

First, they seemed to stand in awe of the man with a fly rod in his hands. Second, they wanted more than anything else to take the great plunge themselves. Third, they thought of fly outfits only in terms of flies. Fourth, they felt the whole matter was so complicated that they'd never be able to belong. And, fifth, they seemed always to be apologizing for their comparatively crude methods.

My friend, never let this happen to you! What you're after is sport. If you can get more of it more quickly with a worm and a cane pole, hop to it. I am not sure, though, that you can. I firmly believe that such tackle is cheating you. If you're clinging to it because of inhibitions, get rid of 'em, right now! Don't let the big talk of the self-styled experts scare you!

Let's examine lures a moment. A dry fly, for example, is indeed an artistic and beautiful creation. The expert manipulation of it is a fine art. It is not, however, impossible for you or anyone

else to learn. Proficiency in the use of the dry fly can give one a thrill not to be experienced with any other method of fishing. Being somewhat of a dry-fly addict, I have an extremely soft spot in my heart for that particular method of fishing.

However, as I see it, the idea of an artificial fly is to fool a fish into biting it, and getting hooked. What's so different about the idea of a worm with a hook inside it? Go a bit further and you will discover an angle that you may perhaps never have considered before. Go back to the Pichotte kid, and that other kid, in our opening chapter. Young Joe used a *real* grasshopper because that was the natural food of his fish. The other kid used worms for the same reason. Why do you suppose young Joe, when he grew older, began to use *artificial* grasshoppers in the form of cleverly tied flies?

Well now, the answer is partly one of psychology, and partly one of convenience and profit. Naturally, this older Joe wished to fish artistically. He also wanted to take more fish with less inconvenience. He wanted to avoid the bother of catching live grasshoppers, lugging them around, constantly threading them on his hook. Besides, a live hopper wouldn't always float well; that is, it wouldn't float very naturally. In fact, with a hook inside, it sometimes wouldn't float at all. Thus, as an artificial would be far less trouble, would look more natural on the water than the real thing, and could be cast without its disintegrating, why not use it? You see, there is a lot of plain old common sense buried beneath the veneer of art in fishing.

Staying with Joe a moment longer, when he caught his Trout on a live hopper, he usually had to re-bait. Using a fly, he simply creeled his catch and started over. If Trout happened to be taking stone flies, or May flies, or caddis flies, he certainly would have a time of it trying to acquire some. Artificials, however, would serve their selective purposes, perhaps better than their living counterparts.

In the case of the worms you use, matters are somewhat different. Common sense here again often indicates the use of live bait simply because the fish take it more readily on a given day. And also, to the best of my knowledge, nothing has been concocted to date by a tackle maker which will look and act like a worm in the water, and still stack up with the real thing in actual fishing.

Undoubtedly there is good reason for this. Fish strike a moving bait hard and get hooked before they can react to a decision about its real or artificial qualities. Artificials are usually fished on the move. Live bait, fished still as it is in most cases, gives the fisherman an opportunity to allow the fish to nibble at it, taste it. Finding it palatable, the little fellow gobbles it. Thus a real worm will catch fish in greater quantity than an artificial one—in the light of our usual conception of fishing methods. Keep this paragraph in mind, because we are going to have more to say about the subject later.

The importance of the lure at the end of your line, then, is purely and simply a matter of what lure, live or artificial, out of the hundreds available, will best fool a fish at any given time and place. So don't give a thought to the fellow who exhibits a raised eyebrow at your live bait, especially if you have trained yourself to use it in a *refined manner*—refined, not for the sake of what the other fellow may think, but to give you more enjoyment from your sport. More about that, too, presently.

Just for a moment now, before we drop the philosophy of lures, let us look at the wet fly. It is so constructed, let us say, that it supposedly appears like an injured minnow as we retrieve it. It is called a streamer fly. During our retrieve, it is as if we were saying to a fish:

"Look! Here is an injured minnow, easy prey for you, indeed."

Now, suppose we actually use a minnow, a *real* one. What do we say to the fish?

"Look! Here is an injured minnow, easy prey for you, indeed."

Where is the difference? One *looks* like a minnow (so we choose to think, although none of us has ever seen it through the eyes of a fish), and one *is* a minnow. Both have hooks. Our intention, once we have chosen a lure—and note this well, now—is to *present* that lure in such a manner that the victim will not be suspicious of it. Really, the lure is not more than one-half the problem. An expert can often present a bait that fish are definitely not biting—and take fish with it. In such cases lies the proof. Not the bait, but the enticing manner in which it is offered, is very often what bewitches a yawning and blasé fish.

A real worm or minnow with a hook inside is just as difficult of proper presentation as an artificial worm or minnow made to look real. You may not agree, but it is true. Certainly young fish will be less cautious and will, in many instances, grab at live bait no matter how sloppily it is presented to them; but if we are to take adult specimens, the larger, older ones, then live bait must be fished with as much cleverness as the artificial.

In fact, if you are to become an expert at fishing such live baits, you should attempt to fish them exactly as you would fish artificial wet flies or underwater lures. If a wet or streamer fly is so tied that it will simulate the action of a minnow in the water, or if a nymph of some sort is tied to represent a real nymph, then surely the action of them in the water must be such that they will pass for the real thing. This goes also for live baits. Certainly you wish to have a worm or minnow or crawfish appear in the water as though it had no catch to the contract it offers.

Going back to that previous paragraph which we were going to keep in mind, in regard to fish nibbling at still baits but hitting harder on moving baits, let us examine one important reason why the modern fisherman should either train himself to use live bait in a refined way, or else perhaps outlaw it entirely. That reason is directly linked to our new conception of conservation.

We may most easily see the relationship by looking at an example.

Recently I spent a morning Trout fishing, and the same afternoon Bluegill fishing. I started out fishing my dry fly upstream, as usual. Legal fish, it seemed, were not in the mood. I took two good Trout, hooked and released ten undersized Trout. Not a single one of those young fish was injured. Each was hooked lightly in the lip, and I was able to release them without touching any one of them with my hand.

Coming back downstream, I changed to a small spinner with a worm trailing it. I took two very nice Trout—and 27 undersized fish!

Now then, let us examine results. As far as fish to take home were concerned, the fly did as well as the worm. The tiny Trout were no sport to catch on either fly or worm. *But*, of those 27 worm-caught Trout, I would judge at least half were injured so badly that they died!

Why? Because neither large nor small Trout were hitting very hard. I could not tell, when I had a strike, whether or not the fish was legal. By the time the fish was hooked, it had that long-shanked hook far down its gullet. Those same fish could not nibble at a dry fly. As it floated over them, they had either to snap it up, or reject it. And thus did my spinner and worm, on that particular day and in that particular manner, do conservation a great disservice.

Now see what happened that afternoon with the Bluegills. They were surface feeding. I began with a dry fly, and took a mixture of sizes. All were hooked, as usual, in the lip. No harm was done to those released. Presently they began feeding deeper. I threaded a worm on a long-shanked hook and went after them, still-fishing.

Presently I had a bite. I missed. Another nibble. I connected. The fish was much too small, but had managed to get the hook

far back in his gill. There, no doubt, was a dead fish, of use to no one. This, now, begins to sound like an argument *against* live bait. It is, however, nothing of the kind. I was simply fishing my worm wrong.

What did I do? I selected a small Trout fly, attached it to my leader, and put a split shot above it. Then I threaded a juicy chunk of worm on the small hook, pressing it right up into the hackle. This same procedure I had used successfully many times. The fly acted as an attention-getter. I now cast it out, let it sink, and drew it slowly through the water.

A hard strike followed. The fish was another undersized one. He was, however, hooked only in the lip! His mouth was small, my bait was small, and moving. He had no time to nibble. He *grabbed*, and the small hook, due to the movement of it, pierced his lip instantly. He was easily released, without a hand touching him.

In the first instance, with the Trout, I should have stuck to artificials—taking a conservationist's view—for I got just as good results, and with no harm done. In the second instance, I was able, by giving some thought to the matter, to get like results with both kinds of lures. I cannot emphasize too strongly the suggestion that you give consideration to this matter of lures versus conservation. As we all know, we sportsmen do not have fish to waste. One saved today, by careful presentation of a lure, means perhaps many days of sport for many fishermen in the future.

This much at least do artificials have in advantages over live baits: they seriously injure fewer fish. They may, however, teach us how to fish live bait so that their advantages may be offset and equalized.

I almost invariably fish live bait in wet-fly fashion rather than still. And I don't always do so merely to be scientific or artistic about it, or with the conservation angle foremost in my mind. I

do it to catch fish, more and better fish than would otherwise be taken. You may prove this point to yourself any time you wish, especially when fish are a bit on the lazy side.

Sit quietly in your boat, biteless and disgruntled for an hour, when you *know* there are fish down near your bait. Then make a few casts with your worm or minnow, letting it sink deep and retrieving it exactly as you would an orthodox wet fly, with a sprightly come-on action—and you'll be surprised, often, at what results you'll get.

The end result, you see, with either real or artificial lures, is the same: either we fool the old fellow, or we don't. The small difference, therefore, between the two is not at all a difference of artistic approach—we can take care of that in our method of presentation—but one of convenience to the fisherman. If the artificial will get as good results, or rather, if we have come to a stage of angling expertness where we are capable of *presenting* it so that it will gain the same good results, then certainly it should be used. It is a great deal less bother.

I recall one fishing session at a lake in Ohio during which a local Knight of the Angle harangued me to crawl under an old barn with him to collect spiders. Spiders, he said, would take the biggest Bluegills you ever saw—right out of the spots where other fishermen were taking small ones. Now I am what might be termed a neutral observer when it comes to spiders. I have studied them, in passing, in the books of science, and I have paused to admire those big yellow-and-black ones as they spun webs on milkweed blossoms. When, however, it comes to gathering them and threading them on a hook, I'm willing to give the spider a break.

As it happened, I had several artificial spiders in my tackle box, very good likenesses indeed. He gathered his spiders, and mashed them to bits getting them on his hook. He did take some big Bluegills; but I, with my artificials, beat the daylights out of him, both

for size and quantity. Why? My lure looked better, and acted, in the water, like a spider who wished he was on dry land. This affair had no artistic facet. It was purely a matter of convenience and presentation. It might have been the other way round, with some other type of bait . . .

RODS AND REELS

Now then, our discussion of lures has had in mind, as you have undoubtedly suspected, more purpose than merely to salve your hurt pride, held over from that time the fly-fisherman looked down his nose at you and your worms. It just so happens that many of our Panfish relish worms and other live bait above all else. And it also happens that worms, in particular, are neither difficult to acquire nor to handle. Thus we come to the point where the idea occurs to us—as previously suggested—that perhaps we should fly-fish with a worm.

The terminology may be confusing, but certainly, if we use the term "fly-fishing" in a sense to include all very light equipment, it is easily possible. And, if we are to fly-fish with live bait, then we automatically go back to that term previously used: fishing in a refined manner.

This, you see, brings us to the truly important part, the core of our discussion. Recall that we said the lure was but fifty per cent responsible for results. Presentation makes up the other half. How do we present a bait? That is, what implements do we use?

Most generally, if worms or minnows or any live bait is in evidence, we find people using any old pole: cane, brush-cut, or otherwise. For some reason, live bait and heavy poles have come to be inseparable buddies in the angling world. I have seen a fisherman cast a dry fly for Bluegills until his arm was sore, finally put down his fly rod, pick up a cane pole and rig, and begin still-fishing with a worm.

How much better off he would have been to have simply changed to a light worm rig on his fly rod. Presentation can be improved a hundred per cent by the use of light tackle. That foursome—rod, reel, line, leader—has just as important a part to play in the enticement of a fish as it has in the landing of him.

In addition, the amount of sport you are going to get, once you have discovered what lure will take fish best and have presented it properly, is directly related to the tackle which stretches from your hand to the knot in the end of your leader. The lure itself has very little to do with actual resultant thrills.

There is, of course, a certain different thrill in seeing a fish take a dry fly; and in other cases, a too-heavy or awkward plug may handicap a small fish, taking some of the fight out of him because it limits his action. All in all, however, terminal tackle serves but one purpose: to imitate some food we hope a fish may be feeding on, or to make him angry enough to smash at it. How readily he takes it or how stubbornly he refuses it depends in great part on the landing tackle, as does our own enjoyment.

I recall recently having fished for Crappies with a friend of mine, an old-timer of the cane-pole school. We sat in the boat, he with his cane pole, I with my fly rod, still-fishing with minnows. The fish, I suspect, were laughing at us. They would mouth the minnows, but they would not give us a strike lusty enough to allow us to hook them.

Now I knew how to catch those fish, but I wanted to see what ideas, if any, would occur to my old-timer friend, who was something of an alleged local authority on Crappies. Finally he said, "We may as well go in. They're not hungry."

Without a word I carefully threaded a minnow on my hook so that it would not easily come off. Using the tiny minnow as a sort of wet fly, I made a long cast, then retrieved in orthodox streamer-fly fashion, in long and short sweeps of line and rod tip.

It seemed obvious to me that this *motion* given to the bait

should have an effect of arousing interest in a fish. Certainly with the fish lazy and full—or whatever they were—and the bait lying still or nearly so in the water, we couldn't expect much. Movement, however, might cause one to race quickly for a look. All animate beings are curious, whether or not they are hungry. Movement of the bait—with its good sharp hook residing within—would also snag that curious meddler if he even so much as mouthed it, as had previously been the case.

Within the space of fifteen minutes, I had three Crappies. My friend then followed suit, attempting to use his cane pole. He had strikes, but he didn't do very well. His pole was too heavy and awkward. What he needed, and lacked, right at that moment, was *the equipment to facilitate a refined approach. In addition, when* I hooked one, I had a moment of good sport. When he connected, it was the same old story: yank his fish out of the water and swing it around the boat until he could grab the line. I might add that with Crappies, in particular, no better way could be found to lose at least one out of three.

Now to be sure, the cane pole and bright-painted bobber have their place; but I believe that in this age of excellent fishing tackle that place is in moments of reminiscence. I will not deny that there is a certain thrill in the sight of a dancing and diving bobber and the bend of a long cane pole. Neither will I admit that the thrill comes even close to comparison with the feel of a fly-weight rod arcing in one's hand. Yet even today, with all manner of fine tackle built by the manufacturers, it is amazing the number of cars you will meet on the highway, in fishing and vacation season and country, with cane poles tied to sides or tops.

This discussion is not intended, of course, to condemn the poor old cane pole. Surely mine served me well. Our talk here is like saying: "Cane-pole fishing is fun, but light-rod fishing has it topped." And do you know one reason why I believe one still sees so many cane poles? Because of those same inhibitions among

average fishermen which we mentioned some pages previously. What a shame that long, light rods happen to be named "fly" rods!

I recall having said to an acquaintance of mine once: "Bring your fly rod along when you come over." He replied, rather with embarrassment, that he didn't own one because he didn't know the first thing about fly-fishing. Oddly, I had not intended him to fly-fish in the strict sense. To be honest about it, I was planning to go worm-fishing at night for nothing less than Bullheads.

There is, of course, a lot to be said for the bait-casting outfit; but remember that here we are speaking primarily in terms of Panfish, which is to say first and foremost the smaller fishes, and though I do not deny that fishing them with plug rods is feasible, it is certainly not in keeping with the preachments of this philosophy of the angle, and hasn't such a great deal to recommend it in view of the greater sport which may be obtained with the fly rod.

The next step up would be in the category of the extra long and light plug rods, which have become ever more popular in late years. These are excellent rods, and certainly entirely practical for Panfishing. They are, however, an exact material evidence *to the bait-rod fisherman* of what we are getting at here. They are a very good idea, and teach the bait-outfit enthusiast how to split the responsibility of sport with his fish. But here again, they belong somewhat in another bracket. For example, the Black Bass fisherman who has been flinging a plug for years with a four or five-foot rod suddenly makes the discovery of a lifetime when he uses a somewhat lighter plug on a six or six and one-half foot light plug rod.

Keep in mind, now, that everything said and to be said throughout this entire book is personal opinion, when argumentative points are brought up. You don't necessarily have to agree with me. But you should at least *consider* the value or lack of value

of any and all fishing opinions before discarding them. By consideration of other opinions, we learn many times to change our own, and to our own sporting advantage.

What I am about to say here is that these long, light-weight plug rods aren't as good a bet as a fly rod. The so-called "fly" rod is, to my way of thinking, the best fishing gadget ever concocted. It has advantages, from our present viewpoint, over every other type of pole. It won't reach as far as the old cane pole, to be sure; but it doesn't need to. There are ways to get the bait to the fish without fifteen feet or more of pole in one's hands. With the fly rod, you may still-fish on either lake or stream, or you may fish with wet flies, or with dry flies, or with small spinners, plugs, etc. In fact, with it you may do any sort of fishing you wish, or at least a reasonable facsimile of same. What other type of pole can match this?

It is true that with a fly rod you cannot get the distance into a cast that is possible with any of the plug-rod family. Distance is, however, a highly over-rated attribute in many circles. Just as many fish are hooked and landed—perhaps more—with a short cast as with a long cast. It is only in certain highly specialized situations that a long cast is required; and we are talking here about all-round fishing. I dare say my own record over past seasons would stack up reasonably well with the average, and I have not fished with a rod other than a fly rod—and that goes for all kinds of fishing, Pike and Bass as well as smaller Panfish and Trout—for several years.

Light tackle is made to order for the little Panfish. You see, what we are going after, in Panfishing, is just the opposite, in a way, from what we usually go after, to wit: we are out to catch *small* fish, rather than to catch, or dream of catching, the big ones. We'll hope, naturally, to take some of the larger specimens of these small fishes, but our whole purpose is to wring the maximum of sport out of the little fellows. And so I repeat, the

fly rod is made to order. It is absolutely the *only* rod we require. It is the delicate instrument which we shall attempt to pitch in a key to match the sparkling scherzo of the bright-hued, flip little Panfish, and of their larger cousins, too.

So now we are about to choose that rod. I think we ought to talk the matter over at some length; first, because we want to get hold of the right sort of rod, and second, because we don't want to get in any deeper than we have to, financially speaking.

We could, of course, sink a hundred dollars in a rod, and we'd likely have a fine one, too. I'm not sure in my own mind, however, that even those who can afford hundred-dollar rods really distinguish difference enough between such rods and less expensive ones to make up for the deficit. I strongly suspect that extremely expensive rods pay off to their owners more in the satisfaction of ownership than in stepped-up thrills with fish.

Not two weeks previous to the day this is being written, I was fishing on Michigan's Manistee River. Part of the time I used a borrowed rod, one sold by a mail-order house. Its owner told me that it had cost ten dollars. It was as sweet a rod to handle, and to handle a fish on, as ever I saw. I could not possibly find any disadvantage that it had in relation to expensive ones.

I shall get arguments on that score, I'm sure, especially from the old line super-experts. I would listen to a portion of those arguments, too—applied to those experts who put them forth. But here we are talking about you and me. There are millions of us ordinary fishermen. We shall do just as well with good quality, machine-made rods, and have just as good sport with them, at least until we become super-experts ourselves.

The small Panfish do present one perplexing problem. Namely, we need—for Perch, Bluegills, Sunfish, Crappies, Rock Bass, small Bullheads—a light, active rod; and for larger fish—Walleyes, Pike, etc.—something a bit heavier. We must either equip ourselves with two rods, or make a compromise of some sort.

How much we are able to spend will dictate policy in the matter. I think, too, that a few ideas about each type of rod, and their comparative relationships to good sport, may be helpful. Let's look first at the very light rod. These are a bit hard to come by in the very low-price brackets. Also, we must consider the possibility that larger fish may, unless we become very expert, make a mess out of a baby rod.

My own opinion of these baby rods is a rather lukewarm one. A rod of 2 or 2½ ounces and not more than 7 or at most 8 feet in length is a joy to look at, feel in your hand, and own, but as far as *general* fishing is concerned, it is utterly worthless. In other words, it is an instrument built for very special uses. It requires careful consideration of other tackle, so that the whole outfit will have some semblance of balance, and casting with it is a difficult operation. The best way to sum it up, perhaps, is to say that these extremely light rods are somewhat impractical.

Again, however, the matter is one of money. If I could afford all kinds of tackle, I would have a couple of good plug rods of around 5 feet; a long, light plug rod; and some four or five fly rods. Or, if we stick to fly rods, I would want to own at least three, of different weights and lengths, and certainly a baby rod would be among them. If you are so situated that you can have such an assortment, and can get hold of a split bamboo as light, say, as 2½ ounces, it will be ideal—under certain weather and water conditions—to use for the smaller Panfish, provided it has some body to it. Too limber a rod won't allow you to work to exacting dimensions; but on the right 2½-ouncer a one-half pound Panfish will feel like a three-pound Black Bass.

Personally, I don't believe in being too opinionated about the exact qualities of any rod. The man behind it is equally important. One fisherman casts his lure quite differently from another, no matter if each has been schooled by the same professional instructor. What may feel right to one won't to another, because

of individual differences in their physical make-ups. If *you* like the feel of a rod, and the way it works for you, then forget what anybody says.

It is important, though, to remember lightness where possible, yet some amount of backbone, so that you may put life into your line. Extreme lengths are, in my opinion, just a bit impractical, especially in the baby rods. You may be using one on brushy streams where there are many tight spots, and also, in so light an instrument, too great length means too much whip. Short casts beneath low trees, for instance, are extremely difficult with a light rod of 9 feet. Eight will be better, or perhaps even 7½.

You might conceivably pick up an 8 foot, 2½-ounce rod for as low as $10. There is great doubt of this, however. It may cost closer to $20, or more. However, if you can *afford* it, and still have money left for a companion rod, it would be a good investment. If you can have only *one* rod, *don't* buy a baby rod. You'll be sorry a good many times, when you want to do some kind of fishing for which it is entirely unsuited.

For Pike and Walleyes, it would be a dangerous implement. And also, in waters where they abound, even though we're fishing for Bluegills and Perch, we stand the gamble of having our tackle smashed. I suppose there isn't such a lot to be said on that score. We shall always have to take a certain amount of chance. The Trout fisherman must do the same if he uses extremely light tackle. I once saw a light-rod addict having great sport with small Brook Trout on a 2½-ounce rod—only to have it suddenly smashed to bits, along toward dark one evening, when a five-pound German Brown nabbed his fly and made off before he knew what had happened. A very light leader might have saved that rod, because it would have broken at the strike.

In other words, if we want the sport to be gained from feather-weight equipment, we must pay for it, both in cash of a nominal amount, and in the worry over what will happen should a big



PHOTO BY CLEMENT CROUCH

For Panfish, the fly rod was made to order. By taking weight off your tackle, you add stature to your fish.



PHOTO BY AUTHOR

King White, Michigan angler, may be a trout expert—but he's still not above fly-fishing with a worm for Rock Bass!

one attach himself to the bait. It isn't impossible to land large fish on very light tackle; it isn't easy, either. A heavier rod will remove the entire stigma, taking care of the big-fish difficulties in most waters, and being easy and inexpensive to acquire. We may, of course, invest a hundred dollars in a heavier rod, too, but we don't have to, and the easier of the two to come by in a good grade of workmanship is the heavier item.

You may wonder why I spend so much time in discussion of the light rod, and attempts to discourage its use. It is because so many have advocated, without very good reason, the use of these rods. You will hear it said that unless you have a very light outfit, catching Bluegills, for example, is no fun. This is absolutely unfounded, and is, in fact, quite wrong. If you will notice the rods the Trout fishermen use, you will have a good measuring stick.

Most of them use rods of 4 or 5 ounces, or even 6, and with these rods they take—I'm talking averages now, remember—Trout ranging in size from 7 to 15 inches, with more of the former than the latter. A 7-inch Bluegill will give you just as good a thrill on a 4-ounce rod as will a 7-inch Brook Trout—and I am not degrading the Trout. I have fished both these species with exactly the same tackle, enjoying each in his turn, yet I cannot truthfully say that the Trout put any greater strain on my tackle.

And so that brings us to weights and compromises. A rod of 6 or 7 ounces is definitely too heavy, and has little advantage generally in strength over one of 4 or 5. Certainly a 4 or 5-ounce rod should meet every requirement, outside of the specialized needs which we may seek out—if we have the money to invest which makes it possible for us to think in terms of specialized needs.

We might pause here to notice over-all costs. Surely, if we are enough interested in fishing to buy and read a book about it, we

should be willing to invest at least a nominal sum in tackle. One hundred dollars all told would not be too much, considering the use and pleasure we get out of it. We would spend that much on another hobby—golf, for instance—and perhaps wind up with not half the enjoyment. With care, our tackle should last for years, so many, in fact, that we might discover it added up to only a few dollars per year.

By compromising on an all-round rod, then, we may cut down initial costs, without losing anything to speak of in results. Four ounces and 8 to 8½ feet will do very nicely. With such a rod we will be able to do all kinds of fishing: fairly heavy, light, lake, stream, dry-fly, wet-fly, still—anything. And for as little as $10 or $15.

Such a compromise rod has numerous advantages. First of all, if we get used to one rod, and one only, we are always up to par in our casting ability, no matter what type of fishing we set out to do. Panfish will give us plenty of action on such a rod, yet it may be used with just as much confidence for Bass fishing, and also for Trout. In addition, rods in this 4- to 5-ounce category always have a most comfortable feel in one's hand. They are neither so light as to be ticklish, nor so heavy as to be awkward.

We might pause here to mention that rods of extreme lengths are built for specialized needs. It is a very good idea to steer shy of them unless you know definitely what *your* need of that kind is going to be. I have known beginning fly-rod men to purchase, or be sold by most unsportsmanlike clerks, rods of 9 and 9½ feet, with the idea that the longer rod should make the sport more exciting.

Remember this: length means added weight, in *proportion.* A 9½-foot, 6-ounce—or even 7-ounce—Bass rod, with a heavy line, is a fine implement for casting large Bass bugs, popper bugs, heavy spinners, etc. It is just about the most awkward gadget for all-round light-tackle fishing that I can imagine. You don't

need either that extra length or weight. You won't get any more sport out of it. And it definitely will get in your way and feel unwieldy. So why buy it, unless you can own several rods and have some special need for it?

Now then, I have been talking in terms of split bamboo, because that is the rod material which usually comes to mind when fly rods are discussed. There is nothing wrong with bamboo. Nothing at all. But I am going to get way out on the end of a brittle limb and say flatly that I believe the sort of *steel* rods being built nowadays by certain manufacturers have split bamboo topped in every way. Not only do they have it topped today, but within a short time, as manufacturers come to acquire greater "know-how" and better designs, I firmly believe steel—or at least light metal alloy—rods will so far surpass bamboo that it will eventually become a material as much of reminiscence as the cane pole which was its granddaddy.

It is very possible that you may not have seen or handled the kind of steel rods I have in mind. They are neither solid steel, nor hollow steel rolled with a seam. They are *drawn*, therefore hollow, yet seamless. I use one exclusively. In fact, except for the borrowed rod mentioned a moment ago, I have used split bamboo very little during the last several years. My metal rod for *general, all-round work* is the very best rod I have ever owned. With it I am enabled to do things that would be impossible with bamboo. For example, I troll with it. Try that with split bamboo and see how quickly it gets a permanent crook.

I throw this rod around as though it were a piece of water pipe. When I come in, I may lean it against a wall without putting a set in it. It simply will not set. The only possible damage you could do it—raking it through brush and trees, slamming it around in a boat, getting snagged in deep water and bending it in a circle—would be to tear one of the guides from its winding. That, of course, is an easy damage to repair.

This all-round rod of which I'm speaking weighs roughly 5 ounces. Do you know how much it cost me? About $15. The good Lord willing, I'll be using it when the split bamboos are worn to a frazzle. Certainly no large fish will break its tip. The line will break first, or the leader, or the hook. And, in addition to all these advantages, it has all the limberness, the life, of the bamboo rods I have used. In fact, it beats them even on that score. It has a certain amount of stiffness very hard to find in the right spots in bamboo.

Here is something else to remember about these drawn-metal rods. A manufacturer can build any quantity of them exactly the same. That cannot consistently be done with bamboo. With metal, the specifications can be held to quite exacting tolerances, so that each finished product is like every other. I have no doubt that very shortly—perhaps by the time you read this—you will be able to buy from any good tackle counter even your 2½-ounce extra rod in drawn metal, steel or an alloy. If this prophecy proves true, by all means pass up the split bamboo and have a try at one of these. It will be far less expensive, in view of the advantages you will get. However, let me remind you again that all of this is personal opinion.

Before we leave the matter of rods, there is one type which should, I think, be mentioned. Its manufacturer has probably made the greatest contribution in years to the improvement of that portion of our tackle. For many years the Charles F. Orvis Company of Manchester, Vermont, has been making split-bamboo rods; and for many years they have also been searching for ways to improve them. A short time ago they announced the successful completion of experiments in impregnating split bamboo with bakelite, a process which seals the rod against decay, and gives it far more strength.

This impregnation process makes the rod entirely waterproof, inside and out, and also protects it against any harm which might

be done to it by extreme temperatures. As a matter of fact, the Orvis Company proves this point by immersing the rods in boiling water and then freezing them in blocks of ice.

These rods will not droop, as is often the case even with expensive rods after they have been used a long time. They are made straight in the factory, and they stay that way for the life of the rod. No varnishing is necessary, for the outer bakelite finish is permanent. It is also dull, a feature which avoids reflections. This may conceivably be an important improvement, for flashes of sunlight reflected by a varnished rod sometimes frighten wary fish in clear water. Although at the time of this writing these rods are not as yet in general use, I sincerely believe they will become an important contribution to better tackle for the bamboo enthusiast.

Now comes the reel problem. I think very often many of us give all too scant attention to what we're getting when we purchase one. We look for a cheap reel. You'll hear fishermen say: "I've got a good rod, and a so-so reel. However, it works, and that's all that's necessary." Well, that *isn't* all that's necessary. Remember that you use your reel thousands of moments each year. A reel can prove to be the most exasperating piece of machinery ever invented, or it can work so well that it makes you want to go fishing just to hear it hum. So I don't believe we should pinch our cash too hard when we go looking for reels. A cheap reel will be no-good from the first day you use it until you throw it away and buy the next cheap one. An expensive reel will be a pleasure to own and use for as many years as you keep it in good condition.

We could talk weights and measurements in the case of reels, except that the sort of limb I want to crawl out on again would knock those theories to pieces, I'm afraid. You can buy either a single-action fly reel, or an automatic, and I, on my limb, will thump the minnow bucket for that automatic every time. The

only advantage, as I see it, that a single-action fly reel can possibly have for us, is one of lightness. This in itself isn't important except as it gives better balance to our tackle. I'm not convinced that the equation of balance in this case is conducive to putting up with the disadvantages—*which I find*—in a single-action reel.

Mind you, I'm not saying single-action reels are no good. I'm simply prepared to state, from using both, that the automatic is far more convenient, although it does add some weight to the butt of your rod. I do not object to this myself. Once you are accustomed to it, you find no objection. And, if you begin by using an automatic, you'll never know the difference anyway. A great many of the younger fishermen do use automatics, and I have no doubt that in time manufacturers will be able to offer them in weights to match the single-action variety.

Of course, the advantages are not all on the automatic side. Some fishermen put backing on their reels, that is, a certain amount of ordinary line, to which the fly line is attached. I don't, for to date I have never found it necessary to have that extra line for a fish to play with, and I cannot see any other advantage for attaching it, except custom and ceremony. If you do choose to use backing for your enameled or nylon line, you will discover that an automatic spool is very small, probably too small in every case to hold both. Even heavy, large-diameter lines often must be crowded rather tightly to get 25 or 30 yards on the average automatic. With a light rod, and line to match, you should have no trouble.

One other matter to keep in mind is this. An automatic is, of course, a somewhat more complicated piece of machinery than a single-action reel. Things can go wrong. If you buy standard makes, they should stand up well. Mine have. But an automatic should have good care, be kept clean, free of sand, and as dry as possible.

If you have purchased two rods—the baby rod and the heavier

one—then perhaps you might buy two reels also. A very light single-action, without question, would balance your light rod better. The difference in the feel of your two outfits would be so great that one would not particularly throw you off balance for using the other. So, if you can afford it, buy the single-action on the light rod, and get an automatic for the other.

Again, don't see how cheaply you can buy them. Get good ones. Just because a single-action looks like a simple gadget is no reason it should come at a 98¢ price. Good workmanship and design in any usable object cost money. You get what you pay for, and you don't want to be on the verge of throwing it into the lake every few minutes. Although reels are rather delicate pieces of machinery, you can still acquire good ones at very nominal prices.

The automatic which I am using at present is made by a well-known manufacturer. It has never failed to do its job properly, even after several seasons of hard and steady use—and it cost, if I remember correctly, about $5. You can purchase a single-action for roughly the same. At the most, $15 should see you reasonably well outfitted for reels. Understand, of course, that I am talking in minimum terms, and yet considering decent quality. You could go much higher than that, but it isn't necessary.

The matter of balance between your rod and reel can be very important, or very unimportant—speaking for all us ordinary fishermen—depending on what we wish to make of it. It includes two factors: how expert we are, and how conscious we are of the lack of proper balance, or how easily we are irritated by it. If you are just beginning to use this kind of light equipment, you may automatically make certain muscular adjustments, or adjustments in your manner of casting, which will compensate for a lack of balance of which you are not actually aware.

A too-heavy reel will tire your wrist and forearm and perhaps start blisters on your hand after an all-day session. One factor

that is usually overlooked by the theorists who preach the importance of exactly proper balance between rod and reel, is the factor of individual differences among fishermen. The size of your hand, the strength of your fingers, your wrist, your forearm; in fact, the size of *you,* in relation to the size and weight of your equipment, is also a part of the theory, or at least it should be.

I do not believe I am being an extreme theorist by mentioning that point. In almost every instance, the experts who write about such matters work everything out perfectly without considering the individual differences of the fishermen involved. I recall two people, a man and his wife, who proved to be excellent examples of this. He was a gent of some 200 pounds, with arms like tree limbs and hands like shovels. When he wrapped that fist around a four-ounce rod, I don't believe he could tell that he had anything in it. He would flail a Trout stream from dawn to dusk with never the least evidence of fatigue.

His wife, on the other hand, was a slender, small-boned woman, who wouldn't have weighed an ounce over 100 pounds, waders and all. Her hands were small, her wrists none too strong, her fingers rather long and slender. She was extremely sensitive to rod-reel balance, because her strength, in proportion to the tools of her sport, created an altogether different ratio from that of her husband. General conclusions should be obvious.

If you learn, by adjustment of muscles and mannerisms, to overcome any ill effects, and find that you are satisfied with the feel of your rod and reel and with the resultant ease of your cast, you'll never need to know whether you have perfect rod-reel balance or not. The best practical advice is to buy as light reels as you can get. They won't be too light. And the best practical rule to cover the question is: No blisters, no tired wrist, good feel, good cast, equals balance—for you.

We might say just a word about certain advantages of the

automatic. If you have never used one, don't get the idea that they are complicated. They are, in truth, far easier to manipulate than the single-action fly reel or the quadruple-multiplying bait-casting reel. You simply strip off line with your left hand, just as you would with the single-action, only when you want to reel in excess line, you don't go through the irritating business of grinding it in. You merely touch a small lever with a finger of your right hand—and *zip*—in comes your line. You should, of course, let it run through your left hand, or at least be alert to how much you're taking in, so as not to over-reel and haul your lure with a whack against the tip of your rod.

Often, when fly-fishing, or fishing with light lures, this automatic action comes in extremely handy. Instead of getting tangled in excess line, which you had out when a fish struck, you simply play your catch and keep a finger close to the release lever. Every time the fish gives you slack, the reel takes it in, out of your way; and, too, when you are getting the net ready you have a safeguard against slack, for if ever there was a time when a fisherman needed three hands it is when he tries to land a good one, holding net and rod and trying to keep fish and fisherman from a tangle with loose line!

In tight spots, your automatic will be a blessing, too. And, when you get hung in a bush or tree, or snagged under water, you will find it very handy. For example, if you are attempting to handle a boat and your rod both at once, to get free of a snag, that automatic will pay for itself and its small extra weight in three minutes . . .

LINES AND LEADERS

When it comes to lines, we most certainly must speak in terms of balance, for individual differences among fishermen won't make much deviation in the way a lure sails out, if the line fails

to match the weight and action of the rod. Line and rod definitely *must* balance, or you'll have the very devil of a time getting a lure out.

When I took up dry-fly fishing I had the misfortune to listen to some very bad advice. Someone to whom I talked about my troubles told me to get a heavier line, but that it was not necessary to spend much money for it. I had been wearing myself out trying to get even nominal distance with my cast. "A heavier line," my mentor stated, "will take that fly out in a hurry." As it happened, nothing could have been further from the truth.

What I needed was a *better* line, not a heavier one. My rod had a fairly stiff action, calling for a line of reasonable weight, which I already had. But I had tried to save money when I bought it. Lines, I'll tell you, seemed mighty expensive to me, after the kind of 50¢ tackle I had been using! Why, some of them even cost as much as $10 or $15!

Yes, they did—and one of those was exactly what I should have bought. I spent more, later on, fussing with lines at $1.50 per fuss, than I would have spent by getting a *good* line in the beginning. In my opinion, your line is perhaps the most important part of your light-equipment tackle. It will make, or ruin, your cast, cause you to get an immeasurable amount of pleasure just out of casting, whether or not you catch fish—or cause you to go home grouchy and discouraged because light-lure casting seems so difficult. In almost all cases, it is not the mechanics of light-lure casting which is difficult. Assuming that you have even a decent rod, you have simply got hold of the wrong line.

Line sizes are often confusing. You don't need to feel bad about not knowing what they mean. Many an old-timer doesn't know either. Perhaps we can make it clear by the following brief definitions and figures. A level line is a line which is the same diameter throughout its length. Tapered lines are of three kinds: single taper, double taper, and torpedo-head. Single taper means that

the line tapers gradually from one diameter at one end to a smaller diameter at the other end. Double taper lines have about 12 feet on either end tapered down to smaller size, the rest being level. Torpedo-head lines have a heavier section a few feet before the casting end of the line, to help force the lure out.

All reputable manufacturers try to keep line sizes and weights uniform. They do not always succeed. Thus, my statements and figures are intended to be average and general. Remember, it is not the *diameter* of your line which is important; it is the gross *weight*. A cheap line might conceivably be very large in diameter, yet lighter than a smaller sized expensive line.

Line sizes are by letters—size H, size G, etc. A line which bears but one letter is therefore a level line. If it were of the single-taper variety, it would bear *two* letters—for example, HC; which would mean it was tapered upward from size H to size C. Correspondingly, double-taper lines would bear *three* letters. Thus, an HEH line would be size H on either end and size E in the middle. The double-taper lines are necessarily about 5 yards longer than level lines, for the taper diminishes the weight, which is added in length. Level lines are usually 25 yards long; tapered, 30.

You can very easily figure out various taper combinations, etc., if you know the dimensions which each size-letter represents. Following are the most popular sizes:

SIZE	DIAMETER, IN INCHES	SIZE	DIAMETER, IN INCHES
C	.050	F	.035
D	.045	G	.030
E	.040	H	.025

On the next page are some line sizes which you are most likely to be choosing, with their approximate corresponding weights.

SIZE, LEVEL	WEIGHT, IN OUNCES	SIZE, DOUBLE-TAPER	WEIGHT, IN OUNCES
C	1¼	HCH	1½
D	1	HDH	1¼
E	⅞	HEH	1
F	¾	HFH	⅞
G	⅝		

Although there are other weights and combinations, these will form a basis from which you may compute special needs. As a matter of fact, the sizes listed above will cover practically any average need. The following figures and line-rod combinations for rod lengths and actions will be found in general usage among average fishermen; and they will give you a starting point toward getting good rod-line balance:

ROD	WEIGHT	LINE	
		STIFF-ACTION ROD	SOFT-ACTION ROD
8½ ft.	4 to 5 oz.	HDH (E level)	HEH (F level)
8 ft.	3½ to 4¼ oz.	HEH (F level)	HFH (G level)
7½ ft.	2½ to 3½ oz.	HEH (F level)	HFH (G level)

Now then, with these figures to use as basic reference, we may, in our discussion here, limit ourselves mostly to speaking about why you should buy a *good* line.

Once I purchased a level line which cost $1.75. It was an enameled line, of a very appealing pale green color. It also was quite heavy, or at least quite big around. This line, I was sure, would do the trick. After it had been on the reel and in the water a time or two, it began to kink. It would tangle in the guides and not run free. It also cracked, even though I kept it dressed. That is, the enamel cracked, so that now and again one of those cracks would catch in a guide.

Well, I thought, I've learned my lesson. From now on I buy

nothing but nylon lines. And so I did. I bought one for $2. It was nylon, I think, and it would drop as flat and limp as one could wish. Not a kink or curl could you put in it, nor was there any enamel to crack. It would float, too, very nicely—for a few casts. After that it would waterlog so badly no amount of dressing would keep it on the surface.

With this line I could present a cast which was a perfect likeness of the Indian rope trick. The line would sail out a short distance, stop dead, and line and leader would spiral down in a heap upon the water. In addition, when I did get out a decent cast, but happened to take in line too quickly on the retrieve, it would wrap around rod and guides in a most annoying, clinging manner. I simply couldn't shake it loose. Nothing to do but lay the rod down and untangle it. That, indeed, *is* exasperating, when you are out in the middle of a stream. Certainly I had a flat, limp line right enough. And a rough one, too, I might add. After a bit of use it became so rough on the outside that it would barely run through the guides at all; and the sound, when it did, would set your teeth on edge. It ended up as a fish stringer.

Now then, the trouble was not that nylon is a poor line material. On the contrary, I believe it is one of the very best. It is particularly excellent for dry-fly work, because it floats well. This one, however, was just exactly what I paid for. At long last I bought a good, tapered nylon for around $7.50, a size to fit the weight and action of my rod—and my troubles were over. That is exactly what you, profiting by my experience, should do. With good care it will last a long, long time, and the ease and pleasure of casting will be well worth the expenditure.

I do not mean to imply that nylon is the *only* worthwhile line material. Fine enameled silk lines are just as good, in fact, perhaps better, for they will last longer. But I cannot stress too strongly the fact that you should buy a *quality* line. I have heard it said that an enameled silk line in the $2 bracket was just as

good as more expensive ones. This is downright bad judgment, I believe. I have never used a cheap fly line of any kind that was worth stringing on the rod. On the other hand, one of the best lines I ever used belonged to an expert fly-caster friend of mine. It was enameled silk, and cost in the neighborhood of $10. It was one of those perfectly limp lines which had absolutely no stiffness to it. Casting with it was a pleasure, and even seemed to give me much confidence in my ability to drop a fly anywhere I wished, although I am but an average performer.

Either tapered or level lines will do. However, I cannot see any advantage in a level line when you can as easily get a tapered one. Taper definitely does assist your cast, particularly with light leaders. Some fishermen favor torpedo-head lines, and it is true that they will shoot an air-resistant lure out more easily, especially if you're bucking a wind. Don't begin with one, however. Stay on the conservative side until you know exactly what you want for your individual usage.

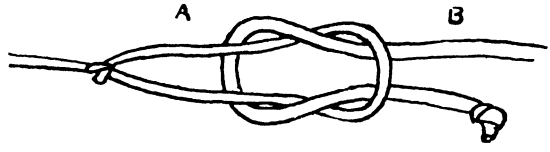
The size of the line, as we can see from the previously given figures, will depend on your rod. But don't dote on a too-heavy line merely to improve a sloppy cast. Get the correct line, and practice your cast until you become proficient. Learn to cast easily, and a good line will do the bulk of your work for you.

As to colors, you will see everything from bright yellow to greens and browns. It is truly difficult to say which is best, from the point of view of keeping a fish from knowing it is there. In some kinds of fishing, it doesn't matter if the fish do see it, or so we believe; but in dry-fly fishing everything should be done to avoid a line shadow or a sight of the line itself. Some say light-colored lines for surface work, dark colors for sunken lines. However, the color of the water is bound to vary in the several waters you fish, and in theory at least this would also make a difference.

Personally I'm not greatly in favor of extremely light colors. Never having been a fish, however, I can't hold myself to any strict opinion. A plain brown hits my fancy. Many and involved

are the theories of line color. Any one of them is difficult to prove in actual practice.

Before we break off this discussion of lines, let me remind you that you must add to your equipment a box of good line dressing. There's nothing complicated about its application, or its purpose. Simply wipe your line dry and clean, apply the dressing, and remove excess. The idea is to keep the line buoyant, so that it will float. You'll usually want your line to float, both for dry and wet flies. Often, after an hour or two of casting, you may find it necessary to re-dress the line.



Knot for attaching leader to line which has no loop at the end. There are many knots for fishermen. This one fulfills the three prime requisites: It is simple; it will not slip; it unties easily, and quickly, by simply grasping line near knot with thumb and finger of one hand, leader with the other, pushing one hand toward the other.

Now to leaders. It is amazing how many fishermen fail to realize that leaders, where they are even remotely practical, are a must for all kinds of fishing. Sometimes, it is true, these same fishermen seem to keep proving their point by bringing in nice catches without having used a leader. This always seems particularly true in reference to the Panfish, because they have a reputation for being ready biters.

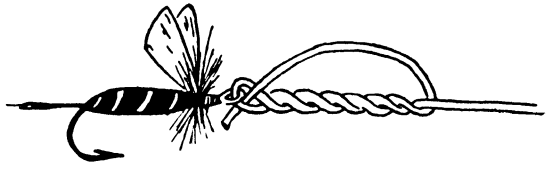
Let us remember, however, that a leader is for only one purpose: to camouflage to the very best of our ability the final link between fisherman and fish. It is well to remember also that no fish is dumb. The bigger they are, the older they are. And the

older they are, the wiser they are. True, a fish may have no knowledge of fishermen and hooks. Obviously, even though he has been hooked once and has broken away, he doesn't look at a bait with line visibly attached and think: "Now that juicy morsel definitely has a hook inside." No, his sad experience has only conditioned him to caution. Each frightening feeding experience likewise conditions him. Thus, the older he grows, the more cautious he becomes.

Even his memory for pain or fright may not be long at all. But the conditioning he receives through every experience of living, added to that inherent wariness common to all wild creatures, makes him a cunning customer. As eating is one of his most important occupations, and consumes a lot of his time, he gets a pretty good idea of what is good for him, and what might not be. He comes to know the look of a bug or worm or minnow. If it doesn't look just right, he is none too anxious to taste it. Certainly a worm with a long white string attached doesn't look right, even to a fish. He may swallow it and be caught. And then again, he may not!

Let me tell you a little tale of leaders. Once not so long ago my brother, who is an erratic angler at best, agreed to accompany me on a jaunt after Rock Bass. He scoffed at my careful preparations. With a white thread line and a hook tied to it by means of an apple-sized knot, he lashed the poor tired face of the river where we had gone, all afternoon, becoming more and more frantic as he watched me, within a few feet of him always, take fish after fish. He, eager to begin fishing, could not spare the time to insure himself anything to carry home. Not that he didn't have bites. Very often we could actually see a good fish nudging his bait. He even handled it in the same fashion that I handled mine. But they didn't nudge mine. They whacked it solidly. It had, as far as they could see, a proposition to offer with no strings attached.

We want to prepare ourselves as well as possible to take the largest specimens of the Panfish. The reason the large ones got that way is that they lived longer. They didn't live long by grabbing up any old food dangled under their noses on a hunk of string. A ten-inch Bluegill, though he is a Panfish, is still a plenty wise customer.



Knot for attaching fly to leader. Follow drawing; then pull tight, and clip end if necessary. This one is simple and quick, both to tie and untie. Very handy if you change lures often. To untie, simply grasp hook with thumb and finger of one hand, pull coils with fingernail and thumbnail of the other.

To the end result of fooling the largest of the Panfish, then, let us get the leader habit. The finer ones we use, the better. If you get to a point where you can handle a good-sized fish on a leader actually too light for him, you will have become a controlled and disciplined fisherman. As a guide to leader sizes, it is a smart idea to fit the *tensile* strength against the average maximum weight of the fish you expect to be taking. That means *average*. Don't use a hawser-sized leader for Sunfish, just because you think you *might* hook a Bass. What if you do? Try to land him on a too-light leader. If you can't, he'll go free. It's a good gamble. Don't spoil your Sunfish angling on the greedy chance of something bigger.

The tensile strength of a leader means it will hold that much dead weight, or rather, not more than a certain amount of dead weight. The spring in your rod, plus the uneven underwater pull

of a fish, however, sets up a far different and complicated equation, which means that a fish, say, of two pounds might be easily landed on a leader whose tippet had but a one-pound tensile strength rating.

The tensile strength of gut is less than that of nylon, running from about a fourth of a pound less in a very fine leader to as much as eight pounds less in a nylon which would hold twenty pounds. As you cannot judge with your naked eye the size of leader material, you must depend on manufacturers' sizes. These are not at all complicated, once you understand the system of marking. Each larger size is one one-thousandth of an inch greater in diameter than the next smaller one.

Level leaders are, of course, of consistent diameter throughout. Tapered leaders are made from short lengths of material, each one a size or more smaller as we work from the loop which attaches to the line down to the tippet. In your best interest from a point of view of sport, you should use the finest—that is, the lightest, leader possible. Then, if your degree of expertness in handling a fish will not allow so small a tippet, step up one size until you cease breaking leaders. Afterwards, as you progress, start dropping back. A very fine leader is often the difference between fish and no fish, when they happen to be skittish.

Following are a few figures which will give you a basic reference for a start toward leader sizes:

SIZE	TENSILE STRENGTH, NYLON	SIZE	TENSILE STRENGTH, NYLON
6/5	8 pounds	1X	3 pounds
7/5	6 pounds	2X	2 ¼ pounds
8/5	5 pounds	3X	1 ¾ pounds
9/5	4 ½ pounds	4X	1 ¼ pounds
0X	3 ½ pounds	5X	.9 pound

In a level leader, those sizes would mean the entire leader is of a certain size; in tapered leaders, the size refers to the tippet, that smallest portion to which the lure is attached.

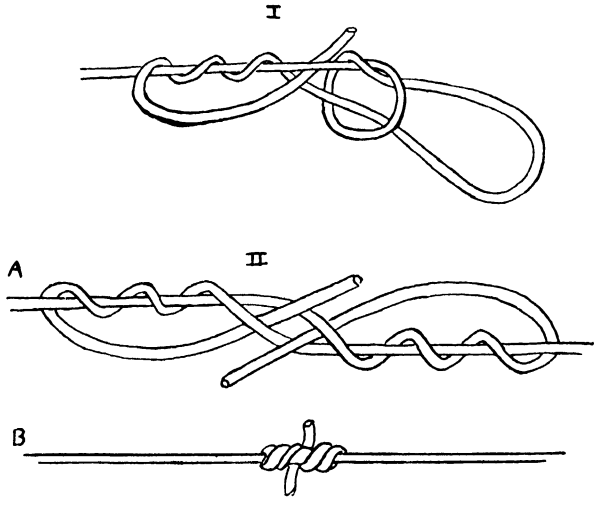
When you break a leader, save the pieces and make new leaders of them, after examining each part to see that it is not split or nicked; or utilize them for those types of fishing where a long leader isn't necessary.

Tapered leaders without question are best, especially for any kind of fly-fishing. For light lures of other sorts they may not be as practical as level leaders, although with spinner and worm combination for Panfish I use a tapered leader. For Pickerel and Walleyes, a short strand of wire leader should be attached, especially to a small bait of any kind, because of their teeth.

A good safe bet is to carry several tapered leaders in 7 or 7½ foot lengths; several 9-foot ones, tapered, of course; some tippet material, for as a rule it is the light tippets which you will break; and a roll of nominal-sized leader material from which you may cut level leaders, or from which you may use hunks for short-leader work. Sometimes, when you break the small tippet on a 9-foot leader, you may find it expedient simply to cut off the remaining knot and use the remainder of the leader, whose tippet will now be a size larger than the original.

Here again I believe nylon is a good bet. You will hear all kinds of theories about it, as compared to gut, mostly in favor of gut. I firmly believe the fishermen who make up these theories are victims of habit, averse to change and newness. There is no question but that gut is good leader material. We should remember, however, that gut was used for years because it was practically the *only* usable type of material. No matter how good it is, it continues to be a nuisance. Keep it in a moist leader box, baby it all you wish, and it will still be a greater amount of trouble to you than nylon.

I recall recently having shown a friend of mine—a gut-leader man—the sort of knot I use in my leaders to attach my fly. He liked the knot, but claimed it would slip if tied in very fine nylon. We tried it, and it did slip on extremely fine tippets. But I have



Knots for making your own tapered leaders. I. To make loop in large end of leader for attaching to line: Follow drawing, pull tight, clip end. II. To splice together lengths of diminishing diameters: (A) Knot before tightening; (B) pull tight. Ends should then be clipped.

consistently used it with 3x tips and have never known it to slip yet, nor do I break nylon leaders constantly, as the gut-leader enthusiasts insisted that I would. These arguments always remind me of the reason given by purist fly-fishermen for running a leader point through the eye of a fly and then making the tie directly about the shank, so that the pull will be against the back of the turned-down eye, not at its edge.

"Tie straight into the eye," they will tell you, "and one of these times your hook may fracture."

That's going a long way to look for trouble. I have never even seen a fractured hook, let alone having had a fish fracture one for me. Certainly a light tippet would break before a hook, even a bad hook—and I mention this example here just as a caution not to take as fact all the theories you hear. Listen, of course, and weigh them; but just because an expert believes them doesn't make all of them true. Do some thinking and reasoning on your own, too. It will bring you to the conclusion that, in actual fishing practice, nylon is entirely satisfactory as a leader material.

As a suggestion, if you find you are breaking quite a number of leaders and running up a bill for new ones, buy material in various sizes, learn the knots—which are simple—and make your own tapered leaders. It isn't at all difficult, and will help pass one of those winter evenings when you're dreaming of the coming season.

Aside from specific lures, then, which we shall discuss as we take up fishing methods for each of the various species, there's only one other item of standard equipment which we should consider a must. That's a short-handled landing net. For a couple of dollars you can buy one. By all means do so, and make a habit of using it even when you think it isn't necessary. It will save you the "big one" one of these days, if its use becomes automatic the minute you bring in a fish . . .

CONSIDERATIONS

Let us suppose now, for a moment, that when you have finished the selection and purchase of your standard gear, you find you have invested a whole hundred dollars. That seems like a lot of money. It won't be necessary, probably, to spend that much, but let's say that you do. A whole hundred dollars spent just to go out and catch Panfish!

Let me show you why it is a good investment. The Trout

fisherman may conceivably spend much more than that, especially if he wishes to be equipped to fish Trout in all waters, and he will take some very long trips in order to use the equipment he has gathered together. He will, out of pure necessity these days, seek out the wildest, most underpopulated backwoods spots he may feasibly reach. Trout and civilization don't mix.

You will hear him complain, and with justification, that the fishing grows poorer every year in the streams where he used to take record fish. It will continue to be so, no doubt, as fishing grows more popular year by year. Do you know that we fishermen number some twelve millions at the present time, not counting the hundreds of thousands of youngsters who are not required to have licenses?

See, now, what that means. Very nearly one out of every ten persons in our nation is a fisherman of one sort or another: men, women and children! That figure grows larger each season. Today you will hear more people than ever before saying: "You know, next year I think I'll start fishing. Looks to me like it ought to be a good hobby."

What do these figures mean to those of us who are already fishermen? Obviously they mean that the fishing pressure is enormous upon every species of fish. They mean that where once we might have taken fish by the hundreds, we shall have to become more and more satisfied to take them by fives and tens. There simply will not continue to be enough of the so-called Game Fish—the Bass and the Trout, etc.—to go around.

Look, now, for a moment at the man who has trained himself to be an expert light-tackle Panfisherman. Panfishing is *his* hobby, his favorite sport, just as Trout fishing is the favorite sport of many, or Bass fishing, or Musky fishing. What are the prospects for this fisherman? They are the very best of the lot!

Are long trips necessary for him? No—he has only to walk or drive a short distance and he will find Panfish. Unlike the

wonderful Trout, the little Bluegill and the Perch and the Crappie and many others get on rather well with the sort of civilization man has crowded in among them. All they ask is food, and decently clean water in which to live. They will put up with indignities which would send a Trout belly-up on the surface in fifteen minutes. They thrive, and in most cases they multiply. All they need is a minimum amount of care, attention, and respect for their habitat to avoid pollution and to keep them in food. For board and room, they will work for us.

They, the Panfishes, are the best friends we have in the piscatorial world. They are easy to stock, in comparison with less hardy species. They require a minimum of space in which to lead their sprightly lives. Why, you, Panfisherman, may often find a spot within your city limits where you may make a good catch of Crappies, or Sunfish, or Perch! And with no more fuss or trouble than driving out to the golf course.

Having spent that hundred dollars, let us say, your fees for your hobby are paid in full for many years. For four or five or even more months out of the year you are privileged to ply your hobby. *And,* as you have become a refined sort of fisherman, you have learned to squeeze from that hobby just as much sport as your sad friend next door who cannot go to that far-off Trout stream, or who finds his near-home stream so over-fished and depleted of stock that it no longer holds charm for him.

There is more money spent on fishing than on any other kind of sport. That is not to say that it is an expensive hobby. You, the Panfisherman of refinement, need never long for expensive trips and vacations in far-off places if they are beyond your means. There are few towns in the nation so situated that they do not give the Panfisherman access to his hobby, right in his own back yard.

It is, you see, merely a matter of adjustment. You simply forget to remember that you are in sight of the home town water

tower, not umpteen miles from the end of the line. The so-called "fished-out" places, the tiny, close-in ponds where no hint of breeze disturbs the glassy water, have a thrill or two in store for you, even though they may contain nothing but Bullheads.

Panfishing, you see, like all other kinds, is really a state of mind. You don't *need* big fish. We have come, I'm afraid, to count sport and enjoyment in terms of pounds. That is entirely wrong. By taking the weight off your tackle and coming to know the little fellows, we add inches and pounds to their stature. Panfishing is an *attitude,* an attitude toward fish and fishing. How well you establish that attitude will be directly proportional to the amount of sport you will get. If you approach *your* hobby as artistically and with as thorough a background and eagerness as, let us say, the expert Trout fisherman faces his, you will find it entirely as satisfactory.

You will be the lucky one, in the years to come, if you become acquainted on a hobby basis with the Panfishes now. As fishing pressures continue to grow heavier, it will be you who will bring home a good string while the other fellow comes home from his far-away trip empty-handed of lunkers. And you will have fished more, having saved the time he spent going and coming back. You will have fished every day, before work in the mornings perhaps, after work in the evenings.

You'll discover, in those nearby, homely places you pass each day, something you never knew before. The trees and the clouds and the sunshine are still there. So get back to your kid days again, when simple pleasures in small doses loomed large—only this time, having become older and wiser, remember: Light Tackle.

Go alone, sometimes, to those quiet, "fished-out" spots. They'll likely be as deserted as the Canadian wilds, even though they're within a mile of town. Let an early-morning muskrat, swimming home, replace the beaver you surprised that time on your northern trip. You, the Panfisherman with the light rod under his arm,

have a whole new fishing world for your oyster. You're the lucky one, for you are going to fit into the fishing world of the future a lot more congenially and happily than the man who has no time for common fishes.

And remember, when they're hitting extra good—observe the laws about sizes and limits. Don't harvest a larger crop than you grow. If you don't need a whole limit to eat, release some, carefully. You've had the sport. A desert traveler who carefully husbands his last pint of water learns far more about the innate goodness of it than the gent at the Old Oaken Bucket ever did!

By Any Other Name

I SHALL NEVER forget the day, when I was a kid, that Lime Tenant and Mister Richardson had the argument about the fish. Lime was a tall, gaunt individual who cruised the old river day in and day out, bamboo pole over his shoulder, spoon-hook attached to his line. He'd pause at the deep holes to throw in here and there, giving his constant daily attention to the taking of "Pickerl" and Pike, which, he said, kept his family in food those hard times. Of course, it never occurred to Lime that perhaps if he would put down his pole and go to work for a bit, his family might get more in their stomachs than "Pickerl."

Lime's "Pickerl" were not Pickerel at all, but small Northern Pike, some of them going as high as six or seven pounds. But to Lime they were Pickerel, far different from Pike, and he was the sort of person whose information upon any subject was posi-

tive. Without question, Lime was right, always. His knowledge of fish and fishing was, in particular, flawless. Lime would tell you so himself.

He could name off the fish in that river, every one of them that a body might catch. There were Green Bass, which differed "considabul" from Brown Bass, and these two were altogether different from the River Bass. A River Bass you would find in the shallow riffles, and his color was pale. They were, he said, quite different from the others in shape, too. The Green Bass you would find beneath a log or stump, always, and the Brown Bass lay in the quiet, deep pools.

So much for the Bass of the river. When it came to Pike, though, Lime was in his glory. Lime knew Pike like he knew the shade beneath his backyard mulberry when a job needed doing. He would hold up a Pike and name it for you, after due study and deliberation, and considerable and copious squirting of tobacco juice over the six-foot circle of which he was the center.

"This here," he'd say, "is a blame (spit) Shovelnose. See how his head's built? Flat like?" Or he'd bring in a Spotted "Pickerl," maybe; or perhaps it would be a Snake "Pickerl," which was a first cousin, according to Lime, of the Snakehead Pike. The difference between a Snakehead Pike and a plain Snake Pike was that the one had a snake-like head and the other a snake-like body, and it would have taken no less an ichthyologist than Lime himself to distinguish any one from another. All this, of course, not to mention the Sow-belly Pike, which, I suspect, Lime had made up on the spot when he happened to take one of those short-bodied individuals which reminded him of his fat old sow.

Mister Richardson was as reticent as Lime was vociferous. Old Dan, as Mister Richardson was known, took his fishing seriously and, although he had no formal knowledge of angling gained from books, he was a real fisherman, of the cane-pole school of course, and would give out, in bits and pieces, fishing

information that would have startled some of the best of the refined and well-schooled anglers.

Old Dan was an inventive soul. "You take a grain bag, and you put a hoop in the top of her, and a handle on your hoop. Then git in your wagin and drive along, holding her over the side so she'll brush the weeds. In grasshopper season you'll git a gallon a mile, easy." That was the sort of thing he was good at. Can you think of a better idea, even today? Try it with your car sometime when you discover how fast grasshoppers elude your attempts to make bait of them!

Old Dan was for the most part a lake fisherman. He would now and then go to the river, but as a rule he went only during the spring run of Suckers, or after Pike in the fall. During the greater portion of the warm months you'd find him on one of the tiny lakes with which our county was sprinkled, sitting patiently in his homemade boat, still-fishing. What's more, I never recall having seen Old Dan on his way home when he didn't have a reasonably good string of fish.

Like Lime, Old Dan knew the name of every fish it was possible to haul from those lakes. And like Lime, too, Old Dan's names came out of that nowhere from which all colloquial monikers are drawn. I'm rather certain that Old Dan was responsible for some of the local names of our fishes. Kids coming up into their teens picked up the names from him, and still today, in the county upon which the old fellow left his mark, you will hear a fish called by a name he fashioned out of the raw stuff of Nature turned upon the lathe of his imagination.

On this momentous day—I don't believe Old Dan spoke as much as "Howdy" to Lime for ten years thereafter—Lime was looking for a lost cow in the cedar swamp on the Higgins place, when whom should he spy but Old Dan coming down the sand road which gave access to the creek leading to Cedar Lake.

We were just turning out onto the stump-studded shoulder

of the road with old Dick and the buggy, to make room to meet the Booford wagon. We paused to pass the state of the weather and how the hay was this year, so that we all came together almost at the same moment. Lime, having spied Old Dan with a string of fish, had made a beeline for the gathering upon the road, lost cow forgotten at the prospect of this excellent opportunity for making talk right under his nose.

Dan said, "Howdy," and we all of us said, "Nice string of fish, Dan." Dan said, "Fair." Then Lime came up onto the road, a particularly lengthy stream of tobacco juice preceding him.

"Howdy, boys," he greeted us. "Howdy, Dan. Well, say, now them *are* Silver Bass, for sure!"

Dan looked first at Lime and then at us and then at his fish. I don't think he felt too good-natured, or he would have let it pass and gone on. He said, "What Silver Bass, Lime?"

Lime laughed. "That's Dan (spit)," he said to us. "Always joshin'. Get 'em in Cedar, Dan?"

"Yep."

Lime wagged his head. "You know, boys, that Cedar Lake is plumb full of them Silver Bass. Odd thing. 'Bout the only fish in there. You'd think there'd be Strawberry Bass, or maybe even Speckled Bass in there, too."

"Silver Bass, my foot, Lime," Dan said real short. "There ain't no such thing. These here is Strawberries, and there ain't a particle of difference twixt them and a Speckle."

"Listen to that, would you," Lime said, (spit). He looked at us and winked. "Reckon, Dan, you got a lot to learn about fish. I could tell them was Silver Bass twenty rod off. A Silver has got a glint to him the others hain't, when the sun strikes him."

"I don't know," Dan said after an impressive pause, "that I got so much to learn about fish. Reckon I forgot more about 'em than you ever made up, Lime. You sure talk a heap with your mouth."

Lime almost swallowed his cud. We all of us suddenly sat up starch-stiff and straight on the seat. Here, it is easy to see in the light of reminiscence, was the point upon which the real smouldering enmity between these two hinged. Each took a certain satisfaction out of the knowledge, real or imagined, that the community pegged him as an expert with fish.

"You deny them's Silver Bass?" Lime snapped.

Dan said, "I'm the one caught 'em, and I'll call 'em what I damn well please!"

One of us said something about its being time we were getting on, and could we give Dan a lift. But Lime stepped in and lifted up the string of fish in Dan's hand. "Strawberry Bass," he sneered. "And no speckles on their tails!"

Dan didn't pull the fish away, but he said flatly, "Take your hands off them fish, Lime, or I'll give you some speckles on your tail to remember 'em by!" He waited while Lime, seemingly awestruck, did as he was bid. Then without another word he wheeled and stomped off down the road.

Lime didn't have sense enough, even then, to be embarrassed or a little bit ashamed. To us he said, "Next thing he'll be saying he catches Calico Bass in Cedar. I dunno, sometimes I think Dan . . ." But we chirped to old Dick then, and left Lime still making fish talk at the Boofords.

Now then, the point of that quaint little tale is that Old Dan and Lime were both right and both wrong; and while I would not want to remove the romance of colloquialism from the realm of fishing history, I do believe it is high time, in this age of opportunity for knowledge, that we put aside some of our misinformation and confusion about species and their identifications, donating it to angling history where it belongs.

True, there was a time when species had to be named by the first fisherman to catch that kind of fish in his community. A name grew with the popularity of a fish. Scientific knowledge in

the field of ichthyology was young, little disseminated, and for that matter non-existent outside of the universities.

Fish, living as they do beneath their protective screen of water, pass their lives pretty much outside the latitude of human observation, unless real and scientific efforts toward observation of them are made. For that reason, our complete knowledge of fishes, their habits, their food, their relationships with each other and with the various elements of their environment, has accrued very slowly.

Even today we do not have a complete knowledge of ichthyology. It seems amazing to compare, for example, the scientific works on ichthyology with those on entomology. Our knowledge of insects far surpasses what we know of fishes, although fish is a staple food.

However, there is in existence a very complete knowledge of the fishes that you and I, as sport fishermen, will need to know. And it is so easily acquired! It seems odd, therefore, with millions of us wetting our lines each year, that we have on the average failed to avail ourselves of the opportunity to know by their correct names at least the few species for which we angle.

From state to state and township to township, we have built up what amounts to a tremendous tangle of fishing terminology. It is quite out of keeping with the age in which we live. These days, when transportation facilities and the great vacation migrations toward the outdoors make it possible for the southern fisherman to drop his fly on northern waters, and vice versa, it seems quite silly that these visiting sportsmen should be fishing, let us say, for Papermouths, when the host knows very well they are Strawberry Bass!

As has been inferred, I do not deny the romance connected with the invention of colloquial terms, and I would not want to put them aside and forget them. However, in this era of need for stepped-up conservation, *which has as its prerequisite a detailed*

and correct basic knowledge of the things we wish to conserve, the place for the romance of misinformation is in collections of Americana, where its flavor and quaintness may be enjoyed to the full. That a Bass should be a Bass in the North and become a Trout in the South hardly seems in keeping with the spirit of a nation overflowing with opportunity for correctness of facts through communication.

To get back to Lime and Old Dan for a moment—as has been said, they were both right. Not only were they right according to the views of each, as to what those fish were, but Lime's other names could also have been applied to the same fish, and are, in fact, in certain communities. What Old Dan actually had was a good string of Crappies.

Let us, just to emphasize the point I'd like to make, look at the astounding list of monikers the Crappie has managed to pick up. I want to set them down here for two reasons: because they may be useful to someone in clearing his own ichthyological atmosphere, and because the length of the list, and the variety of it, is so amazing.

Here, my friend, are the various names by which you would address that little gamester, the Crappie, depending on where you happened to be at the moment:

Bachelor
Bachelor Perch
Banklick
Banklick Bass
Big-fin Bass
Bitterhead
Black Crappie
Bride Perch
Bridge Perch
Calico
Calico Bass
Calico Bream
Campbellite
Chinquapen
Chinquapen Perch
Crapet
Crappie
Croppie
Dolly Varden
Goggle-Eye
Goggle-Eye Perch
Goldring
Grass Bass
John Demon
Lake Bass
Lake Erie Bass
Lamplighter
Mill Pond Flyer
New Light
Pale Crappie

Papermouth	Sand Perch	Strawberry Perch
Papermouth Bass	Shad	Suckley Perch
Perch	Silver Bass	Sun Perch
Razorback	Silver Perch	Timber Crappie
Ringed Crappie	Speckled Bass	Tinmouth
Roach	Speckled Perch	Tin Perch
Rockfish	Spotted Perch	White Crappie
Sac-a-lait	Spotted Trout	White Bass
Sago	Strawberry Bass	White Perch

There, Mr. Panfisherman, are fifty-seven names for one fish! No telling how many more there are in local existence. Did you ever see such an astounding collection? It tells much, when we examine it closely, showing intense colloquial interest and imagination, and along with that, an amazing lack of extremely elementary information about common fishes among the mass of fishermen.

It would be interesting, indeed, to track down the origin of each of these names. Many of them, no doubt, have intriguing tales behind them. For instance, if you pick one name at random —take the name "Sago"—you will discover how easily and logically the name grew, as each of them probably did, in its particular area of usage.

The name "Sago" is of Midwestern origin. Many ponds and lakes in certain regions are filled with a kind of mat-like aquatic vegetation called sago. This pond weed has an unmistakable fragrance. Crappies utilize it for winter shelter, and frequent beds of it during the summer also, taking much of their food in the form of small crustaceans and minnows which also find shelter there. Often, in early spring, the fish will actually smell strongly of the sago weed.

It doesn't take such a great deal of imagination to visualize some fisherman heading for the sago beds to fish for Crappies. "Out

over the sago," he says, "is the place to catch those silvery fish." He comes back with a string, and someone says, "Why, you can *smell* the sago on those fish. What are they?"

Presently associations grow. The place to fish those little fellows is the sago beds. "Sago fishing," someone allows, "is the way to get a good string." In time the weed, and the luck it brings, has imparted its name to the kind of fish caught over it. "Let's go Sago fishing," invites some local angler, and everyone knows what he means. That is, everyone in *his* vicinity knows. Let him go to another part of the country, and he may find himself fishing his favorite Sago while his host angles for Grass Bass.

It is, indeed, impossible to write of fish and fishing in book form, and especially in regard to the more or less scientific books, without having to list other names by which the various fishes are known. Pick up any elementary field book of North American fishes. Leaf its pages. You will find our fishes listed by their science-accepted common names, complemented by their scientific names, and somewhere in the text, a list of names by which these same fishes also are known in certain localities.

A mallard duck is a mallard, no matter where he goes. A deer is a deer. A rattlesnake is a rattlesnake. A mosquito is a mosquito. There are, of course, certain colloquialisms in use in reference to birds, animals, insects, etc., but in no branch of the natural sciences is the variety and confusion so pronounced as it is regarding our fishes.

Yes, I know, you are going to tell me that the scientists themselves get confused. You have perhaps looked in several erudite volumes and have discovered, for example, that in one the common Bluegill is called *Lepomis pallidus* by the man of science. The next volume lists the little fellow as *Helioperca incisor*. Still a third volume ignores those scientific names, calling the Bluegill *Lepomis macrochirus*.

At this very moment I have before me two excellent little volumes of more or less scientific intent. Let us suppose that we have been fishing in strange territory. We have never caught a White Bass before. We don't know the first thing about them. In fact, we aren't *sure* that this *is* a White Bass, the fish spread out here before us on a paper. We can, however, look it up somehow in these two books, and identify it.

We scan the index. Here, in one volume, we find a family of fishes called the White Basses. That sounds the most logical of any we've run across so far. We turn to the section. Here we find the scientific name for the family—*Moronidae*. As we read on, we quite positively identify our fish. It is a White Bass, all right enough, listed here as *Roccus chrysops*.

Maybe we can find more information about it in the other book. But here, now. What's this? No family of White Basses is listed in this index. We do, however, find the Sea Bass family, and we recall what the other volume said about most of these species being marine. We turn to the Sea Bass section.

Now things do become confusing. This family is the family *Serranidae*. About to decide we've turned to the wrong section, we happen to notice a picture of our fish. That, definitely, is it. *But* the scientific species name is not *Roccus chrysops. It is Lepibema chrysops!*

Yes, indeed, I know just how you feel. Let us throw the books away and go fishing! However, if we refrain from such hasty judgment, perhaps we'll see that the scientists weren't quite so confused as they seemed. Usually we will discover that two such differing volumes were published during different periods. Men of learning attempt constantly to improve upon already established facts. It becomes necessary from time to time to lift one fish from a certain group and place it in another, due to new knowledge which has been unearthed. Or perhaps it may be that

discovery of priority in the naming of a certain species may lead to its name being changed to that which the first scientist gave it many years ago.

I am not willing to whitewash the scientists entirely. They often fail to realize how we ordinary fishermen hang on their words. It may be that we cannot pronounce the scientific names, but we do use them, by sight at least, to establish identity of species. We can forgive them for publishing new volumes with the names changed from what they were in the older reference works, but I think we should register a kick now and then, when among recent volumes put out for popular consumption we find one fish with two scientific names. As a matter of fact, at this very moment there are two excellent little identification books on the market, each of them written by an eminent ichthyologist, each of them advertised as a book for the amateur ichthyologist. In one, the Common Sunfish is called *Eupomotis gibbosus*. In the other, it is *Lepomis gibbosus*. I cannot feel that there is any reasonable excuse for this, especially since each writer-scientist has given a bibliography showing that the work of the other had been perused. How simple it would have been to add a footnote of explanation, so that we who pay the bill might be saved from confusion!

Of course, some of the fault lies in the fact that strictly scientific bulletins are written for one group, the professionals, while the pseudo-scientific, or popularized, books are intended for the laymen. In the first instance, scientists don't always bother to explain to each other that a new name has been added, and why. They don't need to. And again, it obviously cannot be helped that a book, let us say, put out in 1907 may differ from one published today. What the technical writers should do, when they write for us, is to state, in confusing cases, either that some other name has previously been used, or that there is a difference of opinion among the scientists themselves.

I have chosen to enlarge on the matter here simply because I

have seen a good many fishermen who were enthused over their attempts to gain more knowledge about our fishes, but who eventually became completely disgusted as soon as their libraries had acquired several contradictory volumes. I believe I can quite easily cure that disgust and confusion. Simply do this: pick out one good reference book, and stick with it. The point is, it isn't necessary for those of us who are primarily interested in sport to memorize long lists of scientific names. The only use they have, for us, is that by them we may be better assured that a certain fish, found for example in both Michigan and Florida, yet known in those widely separated areas by different common names, is really one and the same fish. Further, if you have established that a Sunfish caught in Tennessee, and another caught in Wisconsin, are exactly the same species, don't fret because one book says it's *Eupomotis gibbosus* and another says it's *Lepomis gibbosus*. Get all the books you can on the subject, of course, and study them diligently. But when it comes to scientific names, choose one and let that be your story!

Believe me, I know what a mess you can get yourself into! And because I have waded through many volumes, noting their contradictions, and pondering just how I might set about making it easier for you to gain quick and easy access to greater knowledge without confusion, I have made up the following short list of references. Each of the books listed is an excellent standard identification work, written in language understandable to the layman. There are many, many others equally as good, but these few, I have discovered by poking about in various libraries, are the ones you are most likely to run across. They are also the ones most commonly owned by sportsmen.

1. *American Food and Game Fishes*, Jordan and Evermann.

The various ichthyological works of Jordan and Evermann, though somewhat outdated at present, are still the standard and most often quoted references.

2. *Fishes of Illinois,* Forbes and Richardson.

This is a publication of the Illinois Natural History Survey. Although it is also somewhat outdated, it is considered by professional ichthyologists to be one of the finest standard references—not only for Illinois, but also as a general reference—ever published.

3. *Field Book of Freshwater Fishes of North America and Mexico,* Schrenkeisen.

A handy, quick reference. This, too, needs bringing up to date as far as changes in nomenclature are concerned. But as a condensation of general knowledge about fishes, it is excellent.

4. *The Book of Fishes,* National Geographic Society.

5. *Representative North American Fresh-Water Fishes,* Nichols.

John T. Nichols is Curator of Recent Fishes, American Museum of Natural History. Although there may have been some changes since the book was published, there is no question as to the standing of its author.

6. *Northern Fishes,* Eddy and Surber.

A publication of the University of Minnesota Press. This identification book was copyrighted in 1943, and, as its writers are not only well-known professional ichthyologists in their own right, but have followed the nomenclature of such notables as Dr. Hubbs and Dr. Lagler, I feel that it is an entirely trustworthy reference.

7. *North American Game Fishes,* Francesca La Monte.

Francesca La Monte is Assistant Curator of Fishes at the American Museum of Natural History. Her book is of 1945 copyright, and a really fine reference.

Now then, this list is not an attempt to sell you a library. As has been said, there are other fine volumes. But these are the most readily accessible ones, and they are the ones upon which I have based the use of scientific names in this book. Whenever possible, I have used the nomenclature of Eddy and Surber and of Francesca La Monte, and have checked it against the Hubbs and Lagler check list, published by the Cranbrook Institute of Science, *Guide to the Fishes of the Great Lakes and Tributary Waters*, which, I have been advised by the best of authorities, is one of the most up-to-date of scientific references. When I met difficulty, I went back to those old stand-bys, Jordan and Evermann, and Forbes and Richardson.

It is obvious that we cannot clear away all of the confusion in terminology, even among common fish names, at one stroke. But we can assist, individually, in bringing some better order into the mass of knowledge of our sport and its subjects. By any other name our fishes are obviously just as much fun to catch and eat. But there is a certain enhanced joy which any fisherman will find in his catch, if only he will take the time to identify it properly. One's ego is well served by the ability to expound a bit of awe-inspiring ichthyological information to his companions as a fish comes into the boat, or pops into the deep fat of the frying pan!

In recent years I have watched interest grow among fishermen regarding the fish they catch. Conservation organizations have placed much information before the public. Good books have been compiled and priced within the reach of all who will but take the time to seek them out and read them. Hundreds of times, especially within the past several years, I have been eagerly questioned by the average fisherman who supposed that I would know quite all there was to know about the fishes for which he angled. Many times, I'm afraid, these fishermen have stuck me. But I was able, and pleased, to refer them to certain good and

mildly scientific volumes where they might find what they sought.

This book, obviously, cannot attempt to list all our fishes and identify them. That is not its purpose. We will try, however, to describe the species covered so thoroughly and simply that you cannot possibly go wrong in identifying them when you catch them. On the other hand, among the true Sunfishes, for example, we might get more confused by attempting to list the physical attributes of each and every species in our chapter pertaining to them, than to describe merely those most common ones and leave the other 30-odd to books written for that purpose.

The point which this discussion wishes to make, in particular, is that fishing can be truly *more* exciting, if the fisherman will take time to gain some depth of knowledge about our fishes. If by talking about it here we are able to instill the germ of that idea among ourselves, we will have come a long way toward the betterment of fishing as a sport and hobby. A Sunfish is not just a Sunfish. It is a certain *species* of Sunfish. The same is true of a Bullhead, or a Sucker, or of any fish you might name which has taken its common "handle" from the group to which it belongs.

Do you know, incidentally, when you catch a string of Crappies, which of them are Black Crappies and which are White Crappies, assuming that both inhabit the waters you have fished? Have you ever bothered to observe them closely? You'll find a new and rather exciting hobby hidden beneath the simple word "fishing," if you begin to question the specific identity of each fish you catch.

I recall many times having fished with sportsmen who caught Saugers and called them Wall-eyed Pike, and vice versa. And particularly, I remember many instances when I've seen, and fished with, fishermen who brought in a string of Bluegills which was made up partly of Bluegills and partly of several other species of Sunfish. At a glance, they all looked alike.

If we could depend entirely on color and shape, it would be no trick at all to identify a landed fish. Unfortunately, those two attributes are most variable, depending on habitat, food, etc., and therefore somewhat unreliable. A Bluegill may be a rather bright green in over-all appearance, and again he may be lavender. This very season I took an unusually large specimen which came as close to being pink as any fish I ever saw. The ground color was, of course, a bluish-lavender, but the pink hue, at close range, showed through amazingly.

As to shape, I recently saw a Pike which measured 44 inches and weighed but 15 pounds. Another, 39 inches long, weighed 25 pounds. You can easily visualize the wide divergence in shape of the two fish. One old-timer who saw these two fish allowed that the deep-bodied one was a Shovelnose Pike. The other, he said, was "just plain damn skinny." Both were, of course, simply individual specimens of Northerns, whose experiences in living and conditions of individual habitat and health had caused them to grow in unlike proportions.

We may, then, only partially identify a fish by color and shape. Specific identifications must deal with *fins, their characteristic arrangement, number of hard spines and soft rays in each,* with internal and external structural likenesses and differences, etc. You'll be amazed at how much you'll learn about fish—and indirectly about fishing—if you become curious about such details.

Let me relate for you an experience of mine, not, as it happens, one in which the Panfish played a part, but one which serves particularly well to illustrate the point. Recently I was Trout fishing on the Black River in Michigan, and had taken only two small Brook Trout with dry flies over a period of several hours. I finally got out of the stream and made my way downstream several miles, where I ran into another fisherman who was cleaning a fine mess of Trout.

My first question, of course, was in regard to what fly had taken them. My second was not a question to him, but in my own mind. I had thought, glancing at the fish, that they had darkened somewhat from being dry in his creel. But no, they were definitely a different Brook Trout—one close glance told me that. Their spots were few, and yellow, as opposed to the many red spots on orthodox Brook Trout. Color, of course, was not too good a criterion. I immediately searched further, and to my astonishment noted that their gill covers were so short that a part of the gill protruded. Now I had something, a structural difference.

This strange fisherman and I discussed these Trout, for he had been waiting to see if I would notice anything odd about them. He mentioned a certain fly that I never bothered to use, and suggested a method of fishing it which I wouldn't have thought of. I went home with my limit; but not before we had made a date to fish together the next day.

This fisherman, an ever-curious individual, and somewhat of an expert in his own right, had taught me a lot about Trout fishing—and all because we had found a common interest in an uncommon fish. A dozen questions came under discussion: Where had these fish come from? Had they been planted? As fingerlings, or as mature fish? What species were they, or rather, what sub-species? And so on.

Later, a look in one of my technical books more or less substantiated my opinion as to their identity. Now the plot thickened. Was I *really* correct? If so, were they experimental fish, planted by the Conservation Department? How, I tried to recall, did their actions differ from or compare to our regulation Brook Trout?

At this writing, that fisherman and I are still tracking down those fish. Not, to be sure, for any specific reason. Certainly there isn't a dime in it for either of us, even if we succeed in ac-

quiring case histories on their great-grandpappies. But our friendship and exchange of ideas have lent keen enjoyment to that experience, and both of us have learned a lot from it.

And here is the punch line. I have talked to no less than ten different fishermen who fished the exact spot on that stream during the same days that we fished it—and noticed not the slightest difference in their catch!

Right now you may be recalling some fish you once caught that you wish you could look at again. Perhaps there was something about it to arouse your curiosity momentarily. Indeed, you missed a bet there, friend. The more you observe of your catch, the more you *will* catch. Training in alertness to anything out of the ordinary will make you more observing of details which will, in turn, function as the impetus to alter your methods of fishing—and this alteration, often, will put fish on your stringer. Meanwhile, the bit of study connected with this new hobby will serve to relieve the confusion by which our fishing terminology, our mixture of information and misinformation, is hampered.

There is one other reason why we should come to know our fishes more intimately, not only in the lakes and streams, *but also in the pages of dependable semi-scientific books.* It is a reason based on our modern conception of conservation. Deplorable though it may be, conservation by law—that is, legal restrictions pertaining to size, number, and regions permissible to fish—has been a miserable failure for the last two centuries. This is neither the fault of those who make the laws, nor of those who attempt to enforce them. To be sure, a better understanding of the *reason* behind the laws might help. But you cannot force a man by law to save that which he wishes to destroy for personal gain. One must of his own knowledge and instincts strongly *desire* to conserve.

That desire may arise from the same impetus which causes the lawbreaker to destroy—namely, personal gain. The man who

wishes to conserve, in other words, does so because he wishes to go back sometime to find his favorite natural resource awaiting him. To be sure, laws have helped, for they have set standards for the destroyer as well as the conserver. The one moves carefully, weighing his chances of arrest, the other moves contentedly, trusting the judgment of the lawmakers.

The one great hope we have on the positive side for conservation is the hope evident in education. You cannot intelligently conserve that about which you know little, or that about which you have conceived many mistaken ideas. In order to be assured of an annual crop, you must understand and intimately know that crop—the amount of seed necessary, etc.—else how can you hope to take your yearly harvest properly and safely?

Go one step further and you will see how a knowledge of the fish for which you angle will immediately expose you to information regarding their natural abode, their spawning habits, their prolificness, etc. The more facts about them you know, the more you come to understand *their* problems. The more of their problems you understand, the more you realize how completely, in our civilization, they are at the mercy of mankind and his way of life which constantly affects theirs.

Thus it might conceivably occur that you, who start out only to ascertain the difference between a Bream and a Bluegill, or whether the Yellow Pickerel of the fish markets is one and the same with the Wall-eyed Pike of the books, may graduate to the laudable degree of "IFC"—Individual Fisherman Conservationist.

If even one-half of the twelve million and more fishermen of this country would attain to such a status, we would soon discover that our national reserves, and in turn our sport, had been secured for many generations to come without a tenth of the worries, or expense, or laws, which we now have.

Sound basic knowledge is, however, a prime requisite. The

amateur conservationist, filled with good will *and misinformation*, may often see his good deed backfire. The many and sometimes complicated laws which are in effect in some states attest the accuracy of that statement. They became necessary because of the good will but bad information among sportsmen.

Examples are many. In Michigan, for instance, it is illegal to transfer fish from one lake to another without specific permission. There is sound reasoning behind that law. As it happens, Michigan has a very active Conservation Department, an astonishing number of lakes and streams, and ranks very near the top of the list as to number of fishermen purchasing licenses each year. With such tremendous fishing pressures, the Conservation Department has necessarily been forced to guard and segregate fish resources very carefully.

By screening the possibilities of each lake, poisoning out certain lakes and replanting them, adding forage or predaceous species to others, they are gradually producing on an over-all scale a highly specialized system of fishing waters. The same is true in almost every state in the Union. One well-meaning fisherman can upset the work and expense of an entire project, merely by planting the wrong species in a certain lake.

Bass in a particular lake may be suffering from a species of tapeworm which sterilizes the females. Such Bass, transferred to another Bass lake may start the population of that lake on a downward cycle. In one instance, a local fisherman admitted rather proudly that he had planted Wall-eyed Pike in a certain lake. As it happened, the lake was unsuited to them, but most suitable for Trout. Result: stunted, worthless Wall-eyes, and a most deplorable drain on the Trout population.

In Luce County's Holland Lake, it was necessary to use poison in order to rid the lake of an undesirable over-population, before Trout, to which it was adapted, would thrive. The lake was

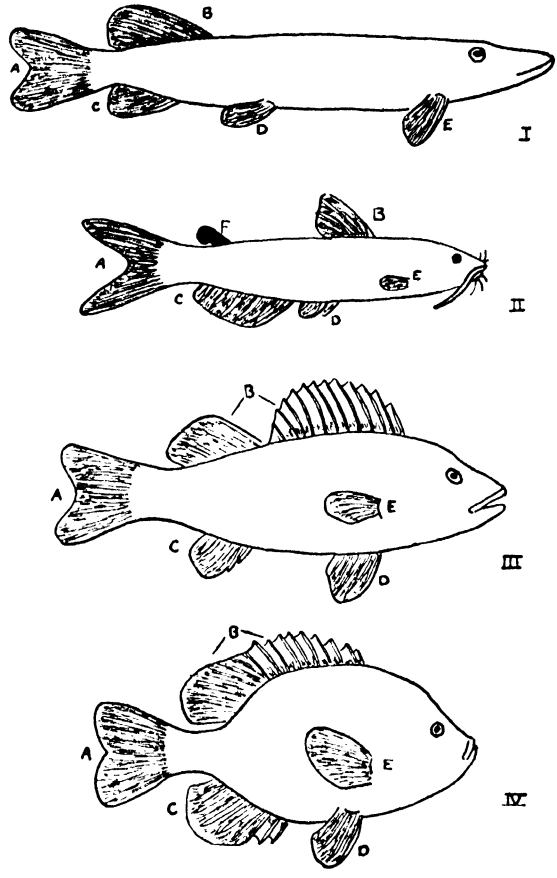
filled to over-capacity with stunted minnows and Suckers which, it was believed, had descended from dumpings of bait-minnow buckets.

In another lake, likewise poisoned, a yield of some 400 pounds per acre of Goldfish was harvested! Those, as it happened, had been planted from a hatchery many years before. Goldfish so quickly monopolize a lake and are so useless to sportsmen that it is now illegal, in Michigan at least, to use them even for bait.

Perhaps one of the best examples of ill-advised planting through mistaken identification is one which occurs many times each year. The Green Sunfish, which seldom reaches a desirable size even for a Panfish, is often mistaken for the Bluegill. A conservation-minded fisherman stocks a lake with Green Sunfish, and waits eagerly for his "Bluegills" to grow fat and sporty. One hour spent digging into a good book describing our common fishes would eliminate such mistakes. Obviously, the smaller Sunfish compete with the other fish for food, do not have to withstand fishing pressures, yet fail to serve any worthwhile purpose in their own right.

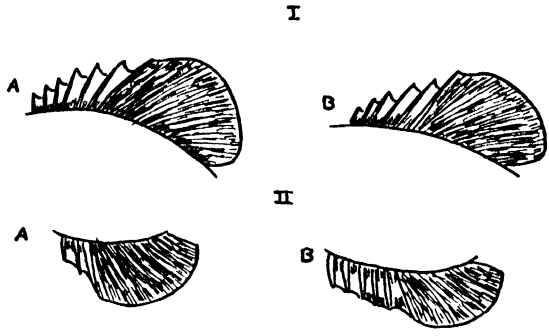
Perch thoughtlessly or public-spiritedly planted in a Trout lake, Wall-eyes in a Bluegill lake, etc., are very likely to do untold harm. Knowing your fish automatically exposes you to such a wide scope of learning in their behalf that such mistakes will never be made.

Let us then go after the facts about our fishes. You will be surprised what a good feeling it is to *know* rather than to guess. You will find yourself slowly beginning to wonder at this or that fact about your catch, and presently you'll awaken to the realization that fishing has become, for you, a double-barrelled hobby, one both of action and constant curiosity. A few dollars for a mildly scientific book or two, a trip to the library now and then, will do as much for better fishing in this country as all the laws ever made!



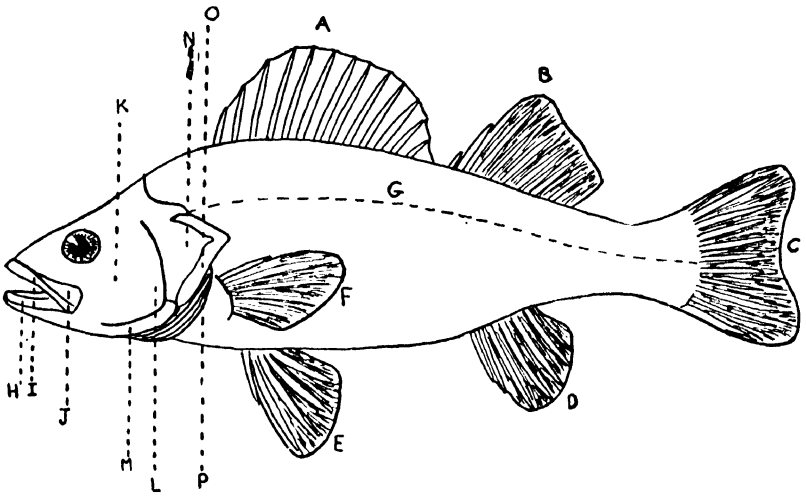
Typical fin arrangements, showing wide divergence in placement, shape, and structure of fins among species selected from four representative families of fishes.

I. Pike	A–Caudal fin, or Tail
II. Channel Cat	B–Dorsal fin
III. Yellow Perch	C–Anal fin
IV. Bluegill	D–Ventral fins, one on each side
	E–Pectoral fins, one on each side
	F–Adipose fin–Channel Cat only



Examples of differing numbers of spines in dorsal and anal fins as between closely related species. Number of soft rays usually differs, also.

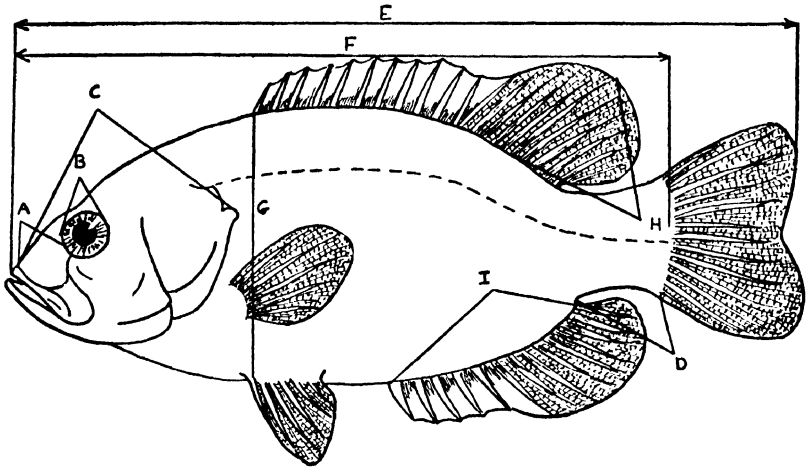
I. Dorsal fins
   A–Black Crappie, usually 7 spines
   B–White Crappie, usually 6 spines
II. Anal fins
   A–Bluegill, usually 3 spines
   B–Rock Bass, 5 or 6 spines



Terminology for the general external parts of a fish.

A— Spinous portion of dorsal fin
B— Soft portion of dorsal fin. Soft fins are composed of "rays."
C— Caudal fin, or tail
D— Anal fin
E— Ventral fin
F— Pectoral fin
G— Lateral line. A scale count is taken along this line. The sense of touch is also highly developed along this line
H— Mandible, or lower jaw
I— Premaxillary
J— Maxillary
K— Cheek
L— Preopercle
M— Interopercle
N— Opercle
O— Subopercle
P— Branchiostegal rays

If you become familiar with these terms, you will be able to read with ease the descriptions and keys for identification in the technical books.



General terms used in technical books for measurements.

A—Snout, or nose

B—Eye

C—Head. In technical keys, the head is said to be contained, let us say, four times in the body. This means length of body equals four times the measurement lettered "C." Likewise, the eye may be contained so many times in the head, etc.

D—Caudal peduncle. This is both a measurement, and the name for that part of a fish.

E—Total length. (This is what the Conservation Officer measures!)

F—Standard length. (This is what the scientist measures.)

G—Depth—in body. This means the longest distance vertically through a fish. Depth *in length* is another term, meaning Standard Length divided by Depth in Body. Thus, Depth in Length of this Rock Bass would be roughly 2.3, as compared to about 2.0 for a Bluegill. This comparative measurement is used because it holds fairly constant, regardless of age or size of individual specimens.

H—Height of a fin, measured along the longest *ray*

I—Length of a fin, measured along its base

Old Redeye

IT IS A truth without question that no fourteen-karat, born-to-the-angle fisherman ever forgets his first fish. The dabbler who can take his fishing or leave it alone may have but a hazy recollection of that first shining creation of Nature which he rudely removed from its weedy parlor. The uninterested non-enthusiast, once or twice impressed into service as ballast for a light-prowed boat, may take no pleasure in the memory of that first fin which broke water at his inexpert yank upon the pole forced into his hand. But to that one, young or old, masculine or feminine, who can go quietly about workaday routine and have the heart pound wildly at memory of flashing scales, bent rod, and singing line—that first fish, be it Bullhead or Tarpon, is a picture so sharp and poignant as never to be forgotten.

My first catch I remember in the most minute and intimate

detail. I can see it flashing upward from beneath the gnarled log sunk in the ripple at the bend in the river. I can hear it splashing in the muddy shallows. I can feel it quivering in my hands as I held it to count the color of every scale upon its trim body. I know the smell of it as it sizzled in butter, while I watched every detail of its preparation. I can still taste it, down to the very tip of its crisp and crackly tail, which I ate last, much against the wishes of my father.

It was a Rock Bass. And a fair-sized one, at that. It weighed an even pound on my mother's old-fashioned kitchen scale. It was absolutely the most beautiful, the most wonderful fish I have ever caught, bar none.

Quite a few years ago that was, yet today, though my methods and philosophy have each undergone a radical metamorphosis, my opinion has changed but little. It would be untrue, of course, to say that the Rock Bass is either as beautiful as the Red-breasted Bream, or as gallant a fighter as his larger cousins. But it would also be unfair to say that he is not.

Therein lies a much disregarded facet of fishing philosophy, as we have previously seen; for surely no creature upon the earth should be judged as to sporting qualities by comparison to another. You may read, for instance, that the Rock Bass is in no way the superb fighter that the Bluegill is, or the White Bass, or any of a number of other fishes. He doesn't act at *all* as they do. Of course he doesn't! And why should he? He isn't any of them. He is a Rock Bass, an individual, and he should be treated as such.

You will recall that in an earlier chapter we briefly reviewed the fishes we were to discuss, but that we skipped Old Redeye entirely. He was to be saved for a very special place of honor. I have looked in vain through literally dozens of volumes about fishing, and I have yet to see more than a scant few paragraphs devoted to my fine old red-eyed friend. Yet he is taken by the

thousands year in and year out, from pond and lake and stream and tiny creek in numerous states. So now for once he shall swim at the head of his finny tribe, leading them into the chapters of this book. He shall, indeed, have a complete chapter all to himself, and I shall do my best to plead his case for him.

He is, you see, such a congenial little fellow that you really should come to better and more respectful te ns with him. He is neither too fussy about altitude, nor too petty in his regard of temperature; neither too orthodox in his tastes, nor too whimsical in his desire to fill his fat gullet. Thus, he enjoys a distinct advantage over a great many more highly regarded species—he is almost always at hand, and he is usually willing to cooperate. Who could ask more of a fish?

I recall one summer in Ohio when the Bluegills at Buckeye Lake were playing hard to get, and the Bass were absolutely disdainful. I spent an afternoon and evening driving around the countryside, looking for Rock Bass. And I finally found them. That is, I discovered a winding old river, the name of which I've forgotten, a small stream, with stumps and rocks protruding in weathered patches from its ancient, rippled hide. There were huge old trees leaning unsymmetrically along its course, and in the evening bats by the hundreds appeared from out of them to skim the stream's surface in search of insects.

Here, I knew, there would be Rock Bass for the taking. And so it was that I spent numerous afternoons fishing for them—and catching them, too! It is one of the finest and most readily available sports in the angling world, if you are willing to work at it with the same artistic caution and delicacy you would insist upon in behalf of larger fish.

It sounds odd, I know, to speak of going fishing for Rock Bass. That is, specifically for Rock Bass. Usually these shapely little fellows turn up by accident here and there among other Panfish on a stringer, or in a limit of Black Bass. But if you will take

the time to study Old Redeye carefully, and go after him in a proper manner, there is sport aplenty waiting for you. It's not the sort of thing for a lazy man, believe me. Many an evening I've come in from some log-studded stream exhausted, after an all-day "go" at my favorite method.

I think perhaps that methods of fishing for Rock Bass may be divided most easily into the categories of waters where the fishing takes place. This pet method of mine calls for a very definite kind of water, a stream, and a rather exact type of stream at that. The beauty of it is that such streams are numerous.

In many parts of the country you would call this kind of stream a creek—"crick" is far easier on the tongue—and in truth it is a creek. Yet many such streams are called rivers. At the widest point such a stream should not be over thirty feet. From there on down, anything to a trickle will do.

It should be full of bends and loops, chucked with logs and rocks, choked with water weeds at intervals. It should be shady —Old Redeye is insistent upon plenty of shade and cover—and with a very moderate to lazy current and a soft bottom except where shallows race over gravel. Not the type of northern black-loam swamp creek in which the Brook Trout often lives, but a Midwest small-river kind. You've crossed hundreds of them.

I don't know just what term might be applied to this favorite method of mine, and I'm not so sure that a name is necessary. It is a sort of bastard method of fishing, unorthodox wet-fly technique without benefit of fly. Since the day I bought my first fly rod, I have practiced it and attempted to improve upon it.

If you'd like to try it, come along. We'll spend a day fishing the lazy old Flint, a typically "right" stream in the thumb of Michigan. It was there, as a kid, that I caught that very first Rock Bass. I'll wager that, low water or high, hot or cold, clear or muddy, dawn or dark, the old river still has a wealth of sport with the Rockies left in its veins.

Waders are out, on this trip. The bottom of this type of stream may often be quite soft, too much so to make wading practical; and anyway, waders are unfair. A pair of old shoes will do, and the first one to get a wet foot will get a black mark to go with it. We are going to be purists of a sort, and this is to be one of our little handicaps.

If you have bought that baby rod about which we talked previously, it will do very nicely, particularly because of its shorter length for casting under trees and brush. And too, a small Rock Bass has only so much with which to fight. The lighter our equipment, the better, for there's no use to pry him loose. Give him an even break and he'll return the favor by giving you a pleasant thrill. If you don't have the small rod, your 4-ounce one is perfectly adaptable, just as long as you manipulate it with a light touch.

That light automatic reel will come in handy along the wooded and brushy bank, since we aren't going to need much line out at any time.

Here, in regard to lines, is a good chance to see that your conservative choice of a medium brown color is not a bad one. This type of water is likely to be somewhat muddy, or if clear, the bottom will nearly always be dark, for moss and algae abound, and swamp dirt, leaves, and twigs constantly sift through and over it. If you have two or more lines, it won't be amiss to use the oldest one, or at least the one of which you are least fond. Every now and then you may possibly be forced to cut a hunk off it, unless you become a super-expert. The snags in these old rivers are cantankerous. Usually, of course, you'll be able to break your leader in a pinch of this sort, and thus save your line.

If you are going to get enthused about this kind of river fishing —and you will, believe me, if you give it a fair trial—then it is well to consider each detail of it so as to get the best results. To this end, therefore, it would be best to use as fine a leader as possible,

yet one which is both strong and inexpensive. No doubt you'll break a lot of them. If you have saved the first four or five feet of broken leaders, now is your chance to utilize them. You won't need a long leader, and these upper halves will obviously be the strongest part of tapered leaders.

It isn't the fight of the fish which will call for a fairly strong leader, it is the snags you'll catch. I use about five feet, either of an old and frayed "Sunday" leader, or else a new one made from one of the less expensive plastic materials. Usually I end up several times a day with only the three strongest feet and a dangle left. Snags again.

Hooks should be around size 6, with leeway in either direction, preferably long-shanked for easy removal and better baiting, and of the wire-steel variety which will bend easily when snagged. Old Redeye has a large mouth, it is true; but a moderate-sized hook will take him best, considering the manner in which he often strikes, and this size will not be so likely to injure undersized fish, which have all the spunk of Grandpap.

How does Old Redeye strike? With a bang! I have seen large specimens strike a Bass bug so that you could not tell them from Black Bass. Even very small fellows seem to have a vicious quality to the way they take a properly presented bait. The strike and the first rush are the best of what Old Redeye has to offer. It is said, and truly, that he tires quickly, maybe giving you one last run just as you get him ready for the net. On the other hand, I have at times caught Rock Bass while fly-fishing after dark for Black Bass, and had them battle all the way in with quite as satisfactory a fight as the Old Man himself. At any rate, Old Redeye strikes willingly, and often, and so several of his regulation short battles are as much sport as one long battle. The strike, in any kind of fishing and with any species of fish, is *the* moment.

Now, to bait. We'll get around to dry and wet flies, spinners, plugs, etc., later on. For this time—worms. Don't be horrified,

now, you who are purists in the extreme. Remember, we've already talked this situation over. There's absolutely nothing wrong with a worm. The fact is, Old Redeye adores them. And remember, we can fly-fish with a worm just as well as with a Royal Coachman. It is all a matter of our attitude.

It might be well to point out the merits of bait in a case of this kind. From the viewpoint of the tackle economist, worms are most certainly easier on the pay check when fishing waters such as these. I recall having attempted to fish small streamer flies at fifty cents a cast for five straight casts in the Chippewa River!

Added to the economy feature is the fact that often a wise old Rock Bass in a deep pool will nip at your bait as though feeling out the material. If you want him to take it, it had better be the McCoy!

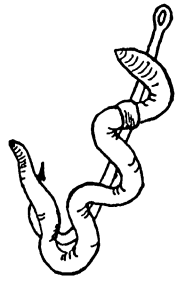
We could use hellgrammites, crawfish, spiders, etc., but worms are easier to acquire and handle, and Old Redeye likes the way they show up in the sluggish current. So now, like the kids by the brook which we were some years ago, we set out with our lightweight tackle and our can of worms in quest of Rock Bass. We *could* put the worms in one of those handy little bait boxes. It would keep them in good condition, where they would be easy to get at—and that should be fancy enough equipment to act as a concession to our consciences.

They shouldn't be particularly large worms. They should be short and tough. If it is possible to put them in moss for a day or so beforehand, they'll be somewhat bleached, and much tougher. Of course, worms of any kind will do, really. The ones mentioned merely hook better, that's all.

Bait carefully. You want the worm to stay on the hook for many casts. You also want to attach it in such a manner that Old Redeye will have a bad time of it if he tries even to nip at it. Indeed, in all kinds of bait-fishing, a great many fish are lost or never hooked at all because a hook was carelessly baited. If you

want to prove that to yourself sometime, fish with the man who is a gob enthusiast. Bait your own rig with a view to exactly what is going to happen when a fish meets up with it, and you'll see who is high rod at the end of the day. He'll get numerous strikes, but you'll land the most fish.

Don't thread the worm on the hook. Run the point through one end, make a very short worm-loop, and repeat. See that the point is slightly uncovered. The old idea that the point of the hook must be completely hidden is pure hokum. Mr. Rock Bass has no knowledge of hooks. A tough worm covering a hook point is protection for him, not you. And be sure, always, that your hooks are of good quality, and *sharp*.



With hook carefully baited in this manner, just let a fish *try* to take the worm without getting hooked! This bait will look quite as natural in the water, as will a worm dangling an inch or more from the hook.

Let the tail end of the worm dangle a little. Don't overdo it. That *long*, wriggling tail looks appetizing to a fish, it's true; but he may snap at it in preparation for gobbling the whole thing —only to have you strike, thinking he has it all. There is no better way to get yourself excited over an eventually limp line. That line, incidentally, we'll dress right down to the leader.

Next thing we'd better do is get down to the stream and look it over. Here, by the old iron bridge, we go down the bank. How

does the current seem? A bit on the swift side? Perhaps it is. In that case, better put a very tiny split shot on the leader about 6 or 8 inches above the hook. Remember, too, when you buy these split shot, ask for the *size* you want. You should have an assortment of various weights in your tackle box.

One thing we might do, just to make this fishing easier until we become expert, is to take a cork about ¾ inch long and ½ inch across on the wide end, split it half through with a thin-bladed knife, and force it onto the leader just about a foot to 18 inches above the hook. That cork is merely to help keep the worm off the bottom and let it float free, down across Old Redeye's lair. It will stay on the leader for hours, and depth may be very simply adjusted by sliding it up or down the leader. It isn't necessary to use the cork, but it is handy at times.

Now then, try the whole rig for weight. Is it heavy or unwieldy? Not a bit. Not nearly so awkward as a hair frog or fair-sized Bass bug on comparable tackle. Forget you're a purist. Just because this rig is reminiscent of your old still-fishing outfit is no reason for alarm. We're still going to fish in a refined manner. For that matter, there was never anything so drastically wrong with still-fishing. We'll imagine this bait of ours is the latest fad in artificials, a highly advertised killer.

There, you see? A bit of psychology works wonders. We are about to fly-fish with a worm.

The water here under the bridge is shallow, not more than a foot at best. There are a lot of small rocks here, and the current makes tiny ripples over them. True enough, this looks exactly like what it says in the books a Rock Bass haven should be—but there's not much real cover, and remember, he likes *cover.*

Look back several yards, upstream. There's a deeper spot just this side of that rock bed, with an old log—over there against the far bank—lying in two feet of water. Notice how the bend of the stream makes a current right alongside that log? There's even a

tiny ripple on the surface. Take note of that space of two or three inches beneath the log and above the stream bed.

If you tossed a twig into the river far upstream from here, it would no doubt round this bend eventually and float right down through that ripple beside the log. Old Redeye knows that, too. He's taken up his vigil in that spot day in and day out all season, grabbing up what the river brought him. He doesn't like to swim a mile for his supper if he doesn't have to, any more than you like to walk twenty blocks for yours. He enjoys living his life the easy way, whenever possible, with no wasted motion. That's how he stays fat and sassy.

How do we know Old Redeye is under that log? Well, we don't, to be honest about it. But no truly game-eyed sportsman ever looks at a piece of cover without first *assuming* that there *is* game there. That's the way he stays alert. We should make each cast with the care and concern for success that we would if we *knew* we were going to hook a record specimen. The times we don't are the times, all too often, when the one "that long" gets away!

So now, let's get that first cast down. It has to be exactly right. If he darts out and strikes and misses, he'll see us move and be gone for an hour or so. Strip off a river-width of line, then, and let it hang in loose coils in your left hand. Leave a rod-length, counting leader, dangling at the tip.

All right now, careful. Bring the rod tip up smartly. Look out for the trees above you. There's a space of a scant two feet where you can swing that highly advertised, newfangled killer lure of ours.

Bring it ahead again, quickly, smartly, just as you'd make a short cast with a wet fly. As the hook soars out, pay off line from the coils in your left hand. Let it run free through the guides. Turn it a hair, there in mid-air, with your rod tip. Bring that worm down way back at the upstream end of the log. *Within two*

inches of the log. Don't make Old Redeye chase way out after this mouthful. Put it where it'll float practically down his throat.

Difficult to handle your line and bait this way under the trees? Say, this is a simple cast. Wait'll you see some of the spots we're going to get into! Placing your bait on a spot the size of a two-bit piece will get to be a sport in itself after a while.

There. That's not bad. See how naturall the worm sinks? Now the current has it. Now it tumbles along through that ripple, just brushing the bottom, right beside the opening under the log. See how it—Look at that brassy flash, will you! Oh, oh, the worm is gone!

Strike now! Quick! Not too hard. Just up with the rod tip lightly, wrist motion only. There, you've got him!

He *was* there, just as we assumed! You can't see him yet. Fast, wasn't he? He's under the log—and so, alas, is your leader. Who says Old Redeye doesn't have some fight in him! Look at the rush he's making. And did you ever see a quicker, more vicious strike per pound of fish? What if this battle won't last long? If you get him out from under that log and into the clear, you'll be lucky, and you'll still have had a good thrill. You can still lose him, even after you guide him out into the open. He may run up into the shallows beneath the bridge if you don't watch him, and clip your leader on a sharp rock.

Ah, that's fine. Patiently, delicately, you've led him out, with that light rod bent in as satisfying an arc as any Trout would ever bend it. Now he comes flying across the pool toward you. You touch the automatic and take in slack. You lead him around the pool. Once. Twice. Look at the way his brassy sides flash! See the bend in that rod! He feels like a fightin' three-pounder, doesn't he?

Keep your rod up and back, now, and get your net down. Keep your feet out of the water. That's unfair! Lead him in. Ease the net toward him. Look out there—guess he wasn't as tired as he

seemed. He gave up just until the net touched him. Don't *ever* try to net any fish that way, from behind. Headfirst is the way. Otherwise your fish will feel the net touch his tail, get braced against the net hoop, and lunge free. You're going to lose him yet. There, that's better. You've got him!

Now then, bring him up here on the bank and let's have a look at him—and don't say you weren't having fun. You were just as excited as I was!

What's that? You thought you were going to lose him under that log? Ha! He was an *easy* one. Wait'll you get one in a foot-wide chunk of fast water with a cut-under bank on one side, a log across the middle, and a brush pile on the other side!

But come now. Forget the post-mortems. Let's have a look at this half-pounder. How do we know for sure that he *is* a Rock Bass?

Well, you shouldn't have any real trouble with identification. There's not another fish you'll run into in fresh water which might be easily confused with Old Redeye. Examine his eyes. Look at the dark crimson iris. If he has the characteristic long, deep-bodied shape of the Rock Bass, with no *detailed* vertical or horizontal stripes, but with olive-black and brassy tones in irregular mottling along his back and sides—*and* those red eyes—then you may be pretty certain you have just landed a Rock Bass, *Ambloplites rupestris* to the scientists.

I don't believe, however, that we should let identification drop there. In an earlier chapter the pleasure to be gained from a fair knowledge of ichthyology was discussed. We aren't going to attempt to become scientists now, but we will take down a few notes about this catch of ours. If you will refer to the simple drawings in the earlier chapter, you will see how easy it is to pick out the key features of body structure which positively place Old Redeye under the name "Rock Bass."

Just for an instant you might confuse him with the Black Bass

or one of the true Sunfishes. He has the large mouth and projecting lower jaw of the Black Bass, and somewhat resembles the true Sunfishes in body shape. But if you will look more closely (see drawings) you'll readily see that his body is a lot deeper than that of the Black Bass. It is also more slender and elongated than any of the true Sunfishes.

Now look at his anal fin. Notice the number of spines. There are usually *six.** This structure definitely sets him apart from his larger and smaller cousins. Smallmouth Black Bass and Bluegills have but *three*, as also the Warmouth Bass, with which he might be most easily confused.

Next come the scales. They will tell you that he is without question a Rock Bass. Note the size of them. They are much larger than those of his relatives; and, obviously, the larger the scales on a fish, the fewer of them. If you will take the time to make a scale count on this specimen, using the lateral line for comparison (see drawings), you'll discover a ratio, not necessarily exact in all specimens, but roughly as follows:

Rock Bass—39
Bluegill—45 to 50
Smallmouth—70 or over

Each scale has a black spot, and these appear to form interrupted stripes horizontally down his sides.

We could, of course, go into great technical detail as to fin and scale and body structure. But we are interested mainly in identifying Old Redeye in such a way as to set him apart from other fish which might be taken in the same waters. The points mentioned will satisfy that interest. The rest we can dig out from the textbooks if our interest goes deep enough.

As mentioned, Old Redeye comes closest in general appear-

* Note: Some specimens have but five. Never less.

ance to the Warmouth. You would usually know, even without counting the spines on his anal fin, that he is *not* a Warmouth *if* you took him in clear, cool water, especially in a stream. The Warmouth is a lover of bayous, and of shallow muddy places, and he is not so partial to rocks and logs.

He deserves mention, surely. His scientific name is *Chaenobryttus coronarius.*† He is a close relative of Old Redeye, but somewhat less sprightly in his actions, and apt to taste muddy. At times the two species are taken from the same waters, and the little Warmouth serves his good purpose in furnishing sport to many. Aside from the difference in his habitat preferences, the same general methods used for Old Redeye may be applied to him. Don't expect too much of him, though. He's the sort who takes life easy and doesn't go around looking for a fight.

Don't let the colloquialisms of the old-timers confuse you as to the true identity of the Rock Bass. One may call him a Bream, another a red-eyed Sunfish. In one locality he may be a Goggle-Eye, in another a Sun Perch, a Lake Bass, or a Sunfish Bass. He may turn up with a dozen different names on as many different streams. He covers so much territory that he is hard to keep track of locally by his proper "handle."

You'll run into him anywhere from Vermont west to Manitoba, and south to Louisiana and Texas, with his greatest concentration in the Great Lakes region and the upper Mississippi Valley. Such is his natural range. He hasn't been confined even to that. He has been handled by Federal and State Conservation men, so that now he appears in no less than forty of our forty-eight states!

But to get on with our fishing trip up this old river, we want to try every log, every rock, every ripple before we quit. And you'll find if you make each cast count, placing it exactly, you'll

† In older references, the Warmouth bears the scientific name *Chaenobryttus gulosus.*

have better luck. A spot where two logs lie close together near the bottom is usually sure-fire.

I have witnessed a group of youngsters still-fishing with worms each side of such a spot, and getting no results. Yet, when I passed by and paused to pop my fly-weight worm rig under an overhanging limb *exactly* down into the three-inch opening between those two logs—I was instantly fast to a Rock Bass that weighed almost a pound.

You won't tie into them that large very often. Two years ago I took one on a bug, while Bass fishing. It weighed over a pound and a half. It is said that specimens have been taken up to two pounds and more, and fourteen inches in length. Such sizes are by far the exception. Ordinarily, if you bring home a string that averages a half-pound, you've done a good job.

The books will tell you to fish the deep pools in a stream, holes up to eight feet deep. This is not *always* good advice. It is true that many a good Rock Bass is taken from such places, especially if rocks and logs abound on the bottom. Without good cover, you'll find the deep holes often not so very productive. At any rate, such has been my experience.

One reason for this, I believe, is that the fish sometimes lie lazily in such places, not "on the feed." I have had them nibble with no enthusiasm in such water. Currents are slow in these pools. Bait doesn't look lively, nor seem too enticing.

Find a ripple two feet wide, where the banks are cut under and logs and brush and weeds funnel against the sides of the current. It doesn't need to be over a foot deep. Make your cast at the head of the ripple. Let the swift water swirl your bait along the cover on either side. If Rock Bass are there, you may be sure they're ready to take. I have caught fish in such places while a companion, putting our theories to test, fished the far more likely pool not ten feet away with no results.

Don't give up after one try. If you've done no splashing

around, you may be reasonably certain a Rock Bass is still there. I've seen as many as six taken from a similar ripple not over eight feet long, by working it ten minutes or so, going on upstream, and coming back to work it again periodically.

To my way of thinking, this type of Rock Bass fishing is a sport unto itself. It's hard work. Just as hard as any Trout fishing I've ever done, if not harder. But it pays off in fun—and in good eating, too; for you'll find, incidentally, that Old Redeye eats mighty good. Not, perhaps, in the same class with the Bluegill or Perch, but remember, we are not comparing this snappy little gent. We're merely trying to make the most of what he has to offer. It might be mentioned that Rock Bass from a stream are usually better for the table than those from a small lake or pond. The lake waters tend to be warmer and more quiet. Rock Bass from them may sometimes be a bit soft and muddy-tasting.

The one fine feature of Redeye fishing in this manner along the streams is its handy, near-home aspect. It is a safe bet that within a radius of ten miles from any given point in Old Redeye's domain there is a pond, or lake, or stream in which he abounds. The streams in particular—small creeks and rivers no one ever bothers to fish—are excellent bets. Conditions are never crowded. The scenery is perfect. The fact that such bottom lands are often pastured helps the fisherman by relieving him from the irritating features of brush and tall weeds along the banks.

You may be a Trout enthusiast. Well and good. So am I. But unless you live in Trout country, you have to do your fishing on week ends or vacations or whenever the time element makes it possible for you to get to where the Trout are. There are literally hundreds of thousands of spots, many within a few city blocks of you, or across a forty acres, where Old Redeye has been waxing fat for years. He makes an excellent fill-in to keep you in shape for Trout, even though you're not willing to admit he's as good as your favorite.

Recently I spent a three-day vacation fishing a creek that wasn't over ten feet wide at its widest point. I don't believe anyone had ever fished it, except boys who speared Suckers in the spring. I live downtown in a fair-sized city. Yet I walked to that creek every day, and was laughed at by the purists—until I brought in a string of fine Rock Bass. It was as good a vacation as ever I had.

There are two more items which should be mentioned in connection with this kind of Rock Bass fishing. The first concerns bait. Worms, of course, are not the only food Old Redeye takes with relish. I have made it a practice to open the stomachs of many fish when cleaning them, just to check up. Rock Bass, especially those taken in the small river or creek, seem very often to have their stomachs crammed with crawfish.

They will take crawfish readily, especially if you offer them very small ones, those not over an inch in length. But it has been my experience that a Rock Bass—or any other fish, for that matter—hesitates longer over such an offering than over a soft and juicy worm. You don't want Old Redeye to take hold of your crawdad tail and run with it under a log, there to mouth it over and decide what he intends to do about it. You want him to grab clean and quick, so that you may set your hook then and there.

I would say, then, that though crawfish are excellent bait, when Rock Bass will take them they'll also take worms—something not to be said of other more particular species. And therefore a worm seems more logical, easier to handle, more readily noticeable in the water, and far easier to come by.

Rock Bass will take minnows, too, and gladly, but the same is true of minnows as of crawfish. Worms will do just as well, and usually better. Too, you'll often find streams such as those described swarming with Northern Pike, a minnow addict if ever there was one. If you happen to be using a baby rod, even an 18-incher can raise hob with it in a log jam, unless you are prepared

for him and handle him adeptly. A big one of three to eight pounds in a tight spot might snap your rod before you knew what had struck your bait. Pike are none too fond of worms. Thus the common old garden hackle is good insurance against them. One of those steel rods we talked about is good insurance also!

The other item to be mentioned is this: You will undoubtedly take numerous other species of fish from time to time while fishing Rock Bass in the manner described. Crappie, Perch, Sunfish, Bluegill, Sucker, Bullhead, Smallmouth—none is immune. One of them every now and then adds to the fun of the thing. I have purposely, however, covered the Rock Bass with this detailed description of method, because you will find that fellow in greatest abundance in the type of water described. And often, in such waters—which may be otherwise almost entirely devoid of fins—Old Redeye will come out from under his log to surprise and please you with a solid strike.

All of which is not to say, in the least, that the Rock Bass is immune to the attraction of artificials. I have taken many excellent specimens on every conceivable kind of lure—while fly casting, both wet and dry, for Black Bass; while fly casting for Bluegills, while trolling for Crappies with tiny plugs, etc. But in lake or pond fishing, where usually other species are in greater abundance, it would be difficult, if not impossible, to describe a method for fishing Rock Bass *only*.

During the past season I went out on a large lake one evening to fish dry flies for Bluegills, after having spent most of the day on a Trout stream. I had nothing with me except orthodox Trout flies, which were, of course, all I needed. The Bluegills took a small grasshopper fly for a time, then ceased surface feeding. As the moon came up and the sun disappeared completely, I searched my tackle for a big Bass bug, thinking I'd have a try at the big fellows along the lily pads.

Finding no Bass bugs, I chose a fairly large Trout fly, a Caddis. Though it would float well on a stream, I found difficulty in keeping it dry when I attempted to twitch it along in orthodox Bass-fishing fashion. Also, it wouldn't *pop* on the surface like a heavy Bass bug. Oddly, although the lake was full of good Black Bass, I couldn't get one to touch it—but I did get real old knock-down strikes from large Rock Bass, which fought for all the world like medium-sized Large-mouth Black Bass. In fact, when I hooked the first one, I was not aware that it was a Rock Bass until I had it in the boat and turned the flashlight on it.

This experience might be a tip to the dry-fly enthusiast. It might also serve to dissipate the usual advice that bright-colored flies are a must for Panfish. The Caddis was a regulation dull tan and gray, and served to point up the fact that a natural-looking bug of conservative color may be just as good, if not better, than the gaudy flies tied for the purpose of hooking fishermen at the tackle counters.

Now and again a big Rock Bass will smash a large Bass plug with as much vigor as the Old Boy himself. I recall one time casting a Surf Oreno without much purpose or attention into a gravel shallows near a Smallmouth pool. I turned to say something to my partner, and had the rod almost jolted out of my hands by a one-pound Rock Bass. The water at that point was not over four inches deep.

Spoons and spinners are also productive, fished either with live bait or with small bucktails. Some of the very tiny fly-rod plugs are very good, too. Use a floater, pay out line, and let it drift downstream, then strip it slowly back in against the current, trying to manipulate it so as to cross logs, run under cut-banks, etc.

Personally I have never done too well with flies in the smaller streams, especially with dry flies. If you wish to fly-fish the streams, wet flies tied as nymphs or small streamers seem to be the best bet. Often, however, the water of a lake, surrounding the

point where a stream empties into it, will have its share of Rock Bass. They are both day and night feeders, and along toward evening you'll see them begin to rise for insects. If you can find such a well-stocked piece of water, you ought not to pass up the chance to put your fly down for them, dry. And don't quit when it gets dark. Night fishing with a small bug has a thrill all its own. Strike at the splash, and you'll connect regularly if your reflexes are speedy.

I remember a stream entrance on Murphy Lake, in Michigan, where tiny Rock Bass with eyes bigger than their stomachs almost drove me frantic one morning. It was not quite daylight, and it was the opening of the Bass season. I was using large popping bugs, and I couldn't see what was striking them, but I did know that no fish ever got himself hooked. When the light came up, there were the little Rockies, whacking away.

One other way in which you may enjoy good fly-fishing sport with them is to fish a stream a size larger than those we have been talking about. Often, when the water is fairly low and clear, it is a good thrill to don waders and follow the course of such a stream, perhaps a hundred or more feet in width. You will be able to see where large rocks protrude above the surface. Here the current will form eddies and ripples and swirls. Beside such rocks there will be holes and tiny pools. There is the exact spot to float your fly, or to cut through if you are fishing a wet fly downstream. Try both kinds, wet and dry. Or, during the grasshopper season, try either a real or artificial grasshopper.

However you fish Old Redeye, though, remember that he is only so big. He has only so much of muscle and spirit to give, so use lures with a view to extreme lightness. Don't make him lug a fraction of an ounce more than he has to, once you have him. Use each type of lure, live or artificial, as you would the smallest Trout fly—with a *refined approach.*

Before season, during early May or June, when Old Redeye

and his mate are spawning, take a turn along some stream or over some lake to have a peek at his family life. The male builds the nest, which you'll find in fairly swift, shallow water on a gravel bar, or a bed in a lake. He guards it until the young are able to shift for themselves. And a good job he does, too, for he'll fight in a minute if another fish ventures near, nor is he choosy about the size of his opponent.

It is my bet straight across the board that if you'll take time to get intimately acquainted with this abundant, rough-and-ready little back-alley Bass, you'll find him a real sporting companion. Personally, I'll back him a hundred per cent, any time. He has given me some of the most enjoyable Panfishing days I've ever known, in surroundings all the more pleasant for the memories of early days they always arouse.

Mr. Fan-Fins

IT IS ODD, indeed, for me to recall nowadays that as a kid I knew but one single stretch of fishing water, the few bends of the Flint River which I was allowed to investigate. I cannot truthfully say that my father held any prejudice against fishing; in fact, I recall his having told me that as a lad he once caught a two-pound Brook Trout from a creek near his boyhood home in New York State. He was, however, by no means an enthusiast of the cane pole and had, I suppose, no particular feeling either for or against fishing. He was what might be termed a mildly interested and passive neutral.

Perhaps he was too imaginative in his regard of the dangers with which bodies of water were fraught. He was neither a swimmer, nor especially fond of boats. His over-caution because of extreme solicitude for our welfare led him, I suspect, to strict-

ness with my brother and me in our relationship with the old Flint. We might walk along it, or fish in it, from the iron bridge east as far as Mrs. Kile's first line fence, and west to the first bend. Beyond these extremely inhibiting limits, we were out of bounds. The possibilities of further restrictions held us rather grudgingly within our tiny preserve.

Perhaps these fettering rules by which w lived when we were very small had a more pleasant effect than might be evident at first glance. Because of them, our imaginations ran riot. We concocted fish, fashioned of dream stuff, of sizes and colors to amaze the most erudite ichthyologist. Little did we dream that wonders altogether as breath-taking as those actually existed in the numerous lakes scattered over the countryside, which we had never seen.

Our first introduction to facts came when we moved a great distance—some ten miles—from our well-loved bailiwick upon the Flint. Lost without our river, we explored a tiny, fish-less dredge creek which cut the corner of our new home; and once, when our father was in a less restrictive humor, we were allowed to cross neighboring fields to a nameless larger creek.

It is not clear in my memory just why we wanted to go there. Kids don't *need* a specific reason for wishing to explore waterways. I do distinctly remember that we rigged up a crooked brush-cut fish pole and managed to catch some strange small fish which father identified as Horned Dace. We were quite awed by his knowledge, especially since he was not supposed, in our minds, to know the first thing about fishing.

Our awe was to be short-lived, however; for this was the day —the very hour, in fact—during which we were to be introduced to a far more astounding facet of ichthyological erudition. Three miles from us, at a mysterious lake about which we had heard thrilling rumors, a wondrous feat of fishing had transpired. A string of fish was at that moment being carried toward us along

our road by old Mister Richardson, previously mentioned in these chapters—the Ike Walton of greatest local importance in that rural neighborhood.

They were fish common enough thereabouts and, for that matter, over a great part of the United States. But my brother and I had never heard of them, nor seen them. Our stretch of the Flint had held none.

You cannot imagine the amazement which filled us as, Horned Dace forgotten, we stood and gaped at old Mister Richardson as he came plodding past, swinging his string of "fish which didn't exist." They were Crappies, although we didn't know it for literally years afterwards. The fact is, we would have laughed at anyone who chose to give them that name. Mister Richardson knew fish as no other man alive; everyone in the county would tell you that. And he called them Strawberry Bass!

My brother and I poked at his fish, unable to believe that such a wonderful species existed. Three miles away—over there to the west—Cedar Lake—why, the sun on them even yet, dried out as they were, glinted until it hurt our eyes. And the fins—they opened up like fans at both top and bottom!

We questioned Mister Richardson so thoroughly about them that he became irritated and stomped off down the road, leaving us deep in imaginings, and secretly planning, each of us within his own mind, how we would some day sneak off to Cedar Lake, way over west there, to catch some for ourselves.

The years have seen many Crappies flashing at the end of my line, but that first impression of their beauty and desirability has not waned in the least. You could not possibly seek a Game Fish which is more readily available over a wide area, nor one better adapted to light tackle and variety of method.

In behalf of Mr. Fan-Fins, I'd like to make this chapter perhaps a bit different. I'd just like to talk a good deal rather informally about our fish, dig a little deeper into our beginnings of elemen-

tary ichthyology, using the Crappie as a guinea pig, and work out an example of the fishing philosophy we're trying to build —nothing astounding or difficult, just the sort of discussion several of us might have around the fire after a day of good fishing which has aroused our interest in the whys and wherefores.

You see, if we can keep in mind throughout these chapters that in each one we try to bring up new points of interest, whether it be methods of fishing or items of identification and habits, it will give us an over-all picture of the amazing amount of material which might be covered in regard to each fish. Thus, if you become aware that a lateral-line scale count helps to identify Old Redeye, obviously the same would apply to every other fish. Likewise, as we cover new attributes of each species and dig after off-trail methods of fishing for them, we should all be stimulated to gather *all* the material and apply it with interest against each fish.

We cannot possibly say all there is to be said about any one species, else we'd have many books instead of one. I may put down my observations, and you may disagree with the opinions I've drawn from them. If so, fine! There's nothing like argument to promote interest and alertness. The one fact of which I'm convinced, from talking to numerous fishermen, is that they're hungry to talk about their fishes—to talk long, not just to see a chart and a list of good baits. And that we may do, right here!

You know, one point of interest that's often missed is the subject of range. Sometime when you have the opportunity and the inclination, get to digging into the history of our common fishes and how they have been handled by Federal and State authorities. Every one of them has very interesting stories behind each few miles its range was increased. For instance, Crappies are found nowadays in almost every state in the Union. Their native range was originally from southern Canada to Florida and the Gulf Coast, and westward to Kansas and the Dakotas. In recent years,

however, they have been introduced even on the West Coast. The huge new dams which have been built during the last two decades have produced waters extremely suitable to the Crappie, and thus he has become known to thousands of fishermen who had never even seen him before.

The Crappie lent itself well to introduction into new waters. Nearly always, if you find Crappies at all, you find them in superabundance and traveling in schools. They are extremely prolific, easy-going, and not too touchy or petty about having their living conditions just so. Add to this the fact of their willingness to co-operate with the fisherman, and you have a fish which cannot help being high on everyone's sporting list.

I think it must be because the Crappie has such individualistic beauty and such a distinctive personality that he has acquired so many names; and because of his amazingly confused identity in various places—which we have already noted—I believe we should take hold of the matter here, for reasons of general clarification. Certainly the sound of the word "Crappie" is not particularly poetic, romantic, or pleasing, and it seems a shame that this perhaps most beautiful of our middle-sized species could not have been christened with syllables bearing somewhat more of a lilt in keeping with his symmetry and coloring.

Be that as it may, we seem to have become stuck with the word, and, in the interest of a more general understanding of elementary ichthyology, we had better practice its use. Surely this fine fish needs to have mass attention centered upon *one* name, for nowhere among our fishes do we find a species so distinctly set apart in physical attributes from all his neighbors, and still so confused in widely separated sections as to local identification.

The two names which seem to have stuck the best are Crappie and Calico. The real truth is, of course, that this genus, or division (*Pomoxis*), of the Sunfish family (*Centrarchidae*) is composed of *two distinct species.*

The one, ordinarily called the Crappie, ranges in relative abundance from South to North. The species known as the Calico ranges, in like abundance, from North to South. The food and habits of the two are very nearly identical, as indeed are the fish themselves—very nearly, but not quite.

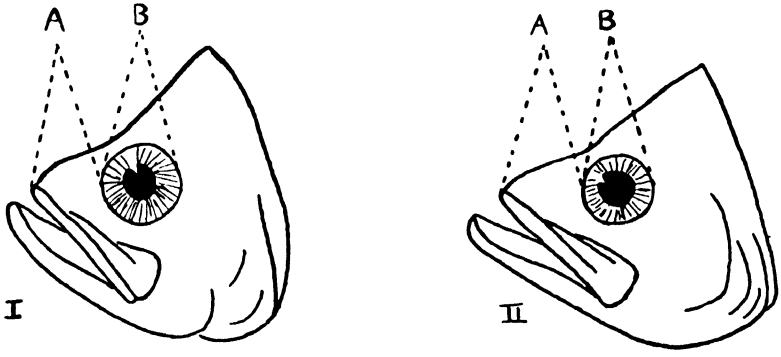
Many fishermen fail to consider them as separate and distinct species, especially since they are often found together in the same waters. Their case is one of the few in the fish world of distinct species living together in like manner yet without being in actual competition. That is, the presence of the one—perhaps because of the fact that they are so similar in habits—does not necessarily have an adverse effect upon the abundance of the other. Here—as an aside—is another intensely interesting subject for discussion about our fishes: their relation to their environment and to each other, a whole science in itself, called Ecology. What a world of amazing and intriguing facts even a slight study of it will open up to the average fisherman!

Let's go a little further with the identification, by name, of the Crappie. Most of the better scientific works of recent years have settled the name argument rather well, I think. They have tossed aside all the hodgepodge and have simply called the two species:

The White Crappie—*Pomoxis annularis*
The Black Crappie—*Pomoxis nigro-maculatus*

Incidentally, to avoid the confusion we talked of earlier about scientific names, the Black Crappie was formerly known as *Pomoxis sparoides*, and may still be so listed in certain volumes. The black and white terminology, it seems to me, aids greatly in setting the two apart. The White Crappie is the species most abundant in the South, the Black Crappie (most often called the Calico) in the North. In fact, the Black Crappie ranges quite a good deal farther north than his blood brother.

Certainly no fisherman will have difficulty in distinguishing the two species of Crappie from any others of our freshwater fishes. They are so obviously members of the Sunfish tribe in general outline and fin arrangement, and may be set apart from all the other true Sunfishes if for no other reason than the fact of their comparatively large mouths. Thus, what we have to learn to do is to distinguish between the two Crappies.



Comparison of the heads of the two species of Crappie. I. Black Crappie. Note that A is about equal to B. II. White Crappie. Note that A is visibly greater than B. If you form the habit of closely observing such details of your catch, you will have little trouble in identifying species which resemble other species.

By examining the colored plates included in this volume, and at the same time following this portion of the text, you will readily see the differences in the two fish, and you may perhaps be somewhat amazed, remembering catches of recent seasons, that you had failed to notice some of these differences previously.

The body of the White Crappie is longer and less in depth than that of the Black Crappie. Its color is pale, silvery and olive, mottled with darker green especially along the upper portion of its body, these mottlings usually forming somewhat indistinct

vertical bars. Note that the darker and more abundant markings of the far more beautiful Black Crappie form no such bars.

The dorsal fin and the tail (or caudal fin) of the White Crappie are marked with very pale green, and the anal fin is very nearly plain. Now look at the Black Crappie. His dorsal and anal fins and tail are distinctly marked with black or blackish-green. There is, too, a distinct difference in the eye color between the two species, the eye of the Black Crappie being deep blue, with a golden circle about the iris, the eye of the other species being lighter in color.

Do you see now how set apart they are? Yet there are other obvious differences. Notice the nose of the Black Crappie. His snout is far more stubby, which gives it an almost turned-up appearance. In fact, the length of his nose just about equals the diameter of his eye, while the nose of the White Crappie is visibly longer than the eye is wide.

Perhaps the most useful distinguishing test between the two, when they are closely examined, is the number of spines in the dorsal fin. It is true that these dorsal spines will not *always* be the same in number; but in the majority of cases the White Crappie will be found to possess *six spines,* while the Black Crappie will exhibit *seven.* You may be interested to note, while we're so studiously playing scientist on these pages, some comparative figures from the Illinois Natural History Survey about this very subject.

They examined several hundred specimens to ascertain just how the spine ratio ran. Of 337 White Crappies, the dorsal spines numbered as follows: 318 had the regulation 6 spines, 15 had 5 spines, 4 had 7. Out of 317 Black Crappies, 266 specimens showed the regulation 7 dorsal spines, 46 had 8, 2 had 6, 1 had 9, and 2 had 10. So you see, counting the spines on a string of Crappies should prove rather well what kind you have caught.

Now then, having spent some time with furrowed brows in attempting to clear up the great Crappie mystery, let's edge away

from strict and stilted science and take a look at little old Fan-Fins through the eyes of the fisherman.

He grows to a size which puts him in the middle-sized category. Thus he satisfies the desires of two distinct classes of fishermen: those who simply like to catch fish regardless of size, for they have ample opportunity to oh and ah a bit over the unusually big one, and those who prefer fish consistently larger than Sunfish, yet don't necessarily demand anything over a couple of pounds. There is a record of one Crappie, taken in North Carolina, which weighed 3½ pounds and was 19 inches long; and I seem to recall having read somewhere of a monster which weighed 5¼ pounds. Whether that last one was official or not, I don't know. There may be other and better records, but certainly Crappies upwards of three pounds are the exception rather than the rule.

On an average, this fish which has been described by at least one writer as the "Peacock" of the finny tribe will measure from 8 to 12 inches and weigh from ½ to 1½ pounds. That's good fishing in anybody's language! In addition, the wide latitude in size makes the silvery-sided Crappie a gambling item. You never know exactly how large a specimen you *may* catch, and, in waters where he is at all abundant, his average will be of dimensions to give satisfaction at every strike. I don't know just why it should be, but in all my fishing for Crappies I can never remember a time when I was bothered by numerous undersized fish, something which certainly cannot be said of Bluegill or Perch fishing. If you have had the same experience, or should have from now on, this might be an interesting matter to look into.

As it happens, I have had, especially during the past several years, an enviable opportunity to study the Crappie rather intimately. A fishing partner of mine has a cottage and boat on a piece of good Crappie water, and I have found myself spending

a lot of time there. The water also contains Bass, Pike, and Walleyes, but as these are often disdainful of our efforts, and as time is usually limited, we almost always confine our efforts to Crappie fishing, primarily because it is comparatively sure-fire. It may be worth while to spend a few moments taking a look at the waters which have given me this opportunity, for they are waters of a sort in which Mr. Fan-Fins does well, and the type in which he may nearly always be found.

If you were to study briefly the map of Michigan, you would discover that the Tittabawasee River joins with several other rivers near Saginaw, Michigan, to form the Saginaw, which empties into Lake Huron's Saginaw Bay. Following the river upstream, north, you would discover a series of small power dams, spaced over a length of possibly a hundred miles. These dams have formed backwaters flooding heavily wooded country, thus forming a long series of artificial lakes.

Miles and miles of these large ponds broaden the course of the river. Most of them are many miles long, with bayous and small islands, and all of them are thickly filled with stumps, logs, and with tree trunks cut off some few feet above the water level. What a veritable paradise these spots are for the Panfish! Above the Sanford Dam, for example, I have taken Crappies, Bluegills, Sunfish, Bullheads, Pike, Walleyes, and Black Bass—all in the same day!

If, however, there is one fish which immediately comes to mind when these waters are mentioned, it is the Crappie. Swarms of them dimple the stump-infested surface of a summer evening. I recall one night having hooked and released in the course of four hours 90-odd, all of them of far better than legal size!

Yes, these are typical Crappie waters. Although at times none too clear, they cannot be described as foul or muddy; and in that respect it may be said that the Crappie, contrary to the statements of many writers, is amazingly tolerant of foul water.

Though not pleased with it, he can exist in it without noticeable harm.

It has been my observation that in more than one latitude water near dams is attractive to the Crappie. Thus, if you locate waters which would compare with the backwaters described here—pond, old millpond, lake, or quiet stream—you are almost certain to find Mr. Fan-Fins awaiting you. Cover is essential. Weeds, both in the deep places and the shallows, appeal to him. Stumps, overhanging willows—these are his greatest joy.

My observations during the recent seasons when I have come to terms with the Crappie in these stump-filled waters have caused me to alter rather radically my philosophy of Crappie fishing. A review of the entire metamorphosis, its pertinent points and the thinking that went with it, may cause you to change your views, too—and thereby perhaps lead you to a greater measure and, in particular, a greater variety of sport.

Compared to a hypothetical fish which we might set up as the perfect Game Fish, the Crappie has certain faults—if we may call them that momentarily. His mouth, immense for the size of him and in comparison to his smaller relatives, is so thin when extended that a hook tears free all too easily. His manner of taking a fly—dry fly especially—is so unusual that setting the hook in him is somewhat of an art, not to be learned in one lesson. He is inclined to give up easily, after a first rush, and to come in flat on his side and hardly moving, until the net is put down, when he arouses himself for one last rush.

Now then, it would seem to me that he presents, because of these peculiarities which I have chosen to term faults, the sort of angling problem which this book purports to be about. We may, you see, simply haul him in, faults and all—or we may approach his case with a full knowledge of those faults and a curiosity as to how best to overcome them for him by the expedient of altered method and tackle. The Crappie can be a boring fish to catch, or

he can be sprightly. It becomes a simple matter of accepting him as a normal little animal and splitting with him the responsibility for our own enjoyment.

One evening I fished among those stumps, dangling a minnow-like wet fly within a yard of the boatside. The fish were feeding near the surface, but hitting in a most lackadaisical manner. They seemed, however, not the least bit shy, and for that reason I thought it might be profitable to attempt observation of a strike or two. To this end I slowly moved the fly back and forth, describing a short arc some eight inches below the surface.

Presently a fan-finned Crappie appeared from out of the brown-clouded depths. Swiftly he made after the "minnow." At the last instant his immense, bellows-like mouth unfolded. He did not turn upon his side, nor come up directly from beneath. He approached on a perfectly even keel, mouth extended, and engulfed the bait with what appeared to be a suction-like action. I use the term "engulfed" because the strike seemed to be not a strike at all in the true sense. The little fish merely surrounded his meal.

Now then, from such an observation—and I have witnessed its repetition many times—we may learn a great deal; for to understand, by seeing, exactly how a certain species of fish takes its food is to come to logical and reasonable conclusions as to how best to attach him to your hook.

When a Crappie strikes in deep water, he does so with a jolt which is astounding. You would think, often, that a large Bass had socked your bait. No doubt the manner in which he engulfs his food and then turns downward, with his large fins set, is responsible for this sudden jolt. He is brought up short, with his momentum and body shape giving the illusion of pounds. I am speaking now, of course, about the strike of a really hungry Crappie. I have seen them mouth over minnows, too, at times, so softly that it simply was impossible to know when to attempt to set the hook.

In order for us to follow through this metamorphosis of mine which resulted in a change of method, we had better look first at the manner in which a Crappie takes the dry fly. I might add, too, that as usual I am not choosing to cover these thoughts in *particular* relation to our subject, the Crappie, but for the general purpose of attempting to stimulate your thinking along similar lines regarding all our fish and the methods by which we habitually fish them.

When conditions are right of a summer evening, in Crappie water, you may see dozens and dozens of dimples upon the surface. Each is about a foot in diameter, and each indicates that a Crappie has just sucked down some sort of surface food. Though many writers assert that these fish leap after insects, I believe it is a misleading statement. It is true that the Crappie will at times jump clear of the water, but for the most part they do not appear above the surface. Seldom do you see a snout protrude from the water, and very rarely will you see a fish break the surface and leap into the air.

If you glide quietly in among these surface abrasions, and the water is decently clear and the light fair, you will be able to observe the little Fan-Fins in action. Perhaps a May fly struggles weakly upon the water. Suddenly a swift, compressed body appears, mouth unlimbered. The action seems leisurely, yet once it has transpired you realize in what a flashing instant it was consummated. The wide mouth appears to suck the fly down and engulf it in a single motion. Yet the fish has most often not come directly up from beneath. On an even keel he has merely pulled down his morsel, scooped it in—and turned downward, like a diving beaver upending, to disappear into deeper water.

Now let us apply the lesson of this observation to fishing. Add to this examination of the Crappie in action the fact of his paper-thin bellows of a mouth. It is not difficult to draw several conclusions which lead to suspicion of the dry fly as the best method

of Crappie fishing. We shall see what these conclusions are as we go along.

Now, of course, it would be unfair to state that the dry fly is out as a Crappie coaxer. Many are the enthusiasts of this method, especially on slow streams in the spring. My own enthusiasm for the dry fly was the very fact which led me to suspect it of cheating me. If you do prefer a dry fly, make an attempt to match the insects upon which the fish are feeding. Any of the standard Trout-fly patterns are good, and a Yellow Sally is, I am told, particularly effective.

It may be, however, that we are handicapping ourselves—once understanding how the Crappie takes his food—by fishing him with dry flies. And there is another point to keep in mind: the way he fights his battle.

Let's think further. As he sucks down the fly into his wide-open maw, you, in striking, may simply overcome that suction, pulling the fly away from him, unless you learn the exact moment to set your hook. Making your strike, and connecting, takes practice and patience when Crappies are your game. It is not a feat which can be technically described with ease, but one which may best be learned by feel—that is, trial and error.

Next let us recall the manner of our little opponent's battle: a first rush, followed by quick submission, during which we lead him flat-sided toward the net, then a last dido or two before he takes his place in the creel or on the stringer—*if* we don't tear the hook free getting him in.

Do you see now how it may be that hooking him at the surface inhibits him even more? He never gets a toehold for the first rush, when a dry fly stings him. However, if we hooked him even as much as a foot or two below the surface, and with perhaps more line out, we might conceivably add some small extra thrill to our strike.

We begin to turn the matter over in our minds and we see

faults in every fishing method—still-fishing will not let us feel the power of a strike that we would get with an active bait—dry flies may inhibit his battle and tear free from his thin mouth—wet flies, etc., also have that last fault. Well, then, how about inventing a method which will assist in counteracting these faults? Would not that be a means of splitting our responsibility with the fish? And, if we are going to seek new ways and means, why not try to use something which will lend variety to our sport?

Most of us are altogether too inclined toward patterns of one sort or another in every act of our everyday lives. These patterns apply equally well to sport, and particularly to the sport of fishing. Old-timers have drift-fished Crappies with minnows for years. Therefore we do the same thing. Moderns have propagandized the fact that he'll take a dry fly well. Thus does enthusiasm for Crappies on the dry fly gain momentum. Therefore, we may as well use Mr. Fan-Fins as a prime example of the idea of a new way of thinking about fishing—thoughtful fishing—which we are striving to get at in this book.

So, we shall set about correcting those faults which we have examined: first, by attempting to hook him more solidly, which suggests that we should hook him in more than one place, and secondly, by attempting to hook him some small distance beneath the surface, so that he will be given a head start for his fight. These thoughts, mind you, I am putting down just as they came to me while I fished Crappies, and I suppose the thinking was in terms more philosophical than ichthyological.

Let me pause to give you an example of the success which may be brought about by reason, and by congeniality toward a change of everyday pattern. I was drift-fishing with the breeze in a boat with a close friend of mine, fishing Crappies on the pond above one of the dams previously mentioned. Fishing matters were far from lively.

I dropped a medium-sized plug overside which would submerge and wriggle violently at the slightest pull. My friend con-

tinued fishing in his usual manner: minnow and spinner, about five feet deep, which would attract the fish (he hoped) as they worked their way upward to the surface for their evening meal. What I wished to do was to entice a fish in close to ascertain exactly what they were up to. For you see, they had been merely mouthing the bait, taking hold so gingerly that it was well nigh impossible to hook a single one. Presently I had the answer.

My bulky plug, working eight inches under, brought up a fish. He didn't hurry. He swam in a most leisurely fashion toward this minnow-like curiosity, made a pass at it which was more of a caress of playfulness than a strike, and turned away—only he didn't get turned very far, because the motion I had been giving to the plug nailed him solidly in *two places!*

My line was short, of course, and he had no chance to run. Also—and remember this for later reference—the size and weight of the plug handicapped him too greatly and discouraged his fighting spirit. *But*, adding this occurrence to my previous observations, I had found the basis of an idea, and I had now only to develop it. I would have to get a bait which would be very small and light, yet could be hung with several hooks, and I would have to keep in mind that Crappies lie deep during the daytime and feed surfaceward and on the surface as the evening comes on.

Several hooks, a bait that would be tiny, and that would run well beneath the surface at any level. What did it suggest? Trolling, of course. You see now that this is no astounding development in the art of the angle. But it is not often that fishermen troll for Panfish, and so it would be a method to lend variety to a season of Panfishing, along with giving me good sport and better results under any and all conditions. Thus I exhibit it as a prime example of the congeniality toward experimentation with new patterns of *fisherman* behavior which we would all do well to keep in mind as we approach each of our fishes.

How often, indeed, we arrive at a lake or stream and set about

fishing *exactly* as we did the last time, whether or not we achieved results that last time. "Maybe they'll be biting better today," we say. Maybe, you know, we ought to set about attempting to *persuade* them to bite better today! The attempt alone will set us thinking—just as it is hoped this discussion will.

So now, let's take a turn at the Crappie, out among the stumps in the clear water between the deeps and the shallows where he takes his ease of a summer afternoon, and at the surface of which he feeds during those glass-calm evenings. As we go along, we'll develop this idea which I broke open during those afternoons of poor fishing and good observation, and we'll see what the outcome is.

First of all, we must realize that although Mr. Fan-Fins takes several kinds of food, his great delight is a minnow of up to two inches in length. Worms have much less appeal for him in most waters. Although live bait is perfectly suitable, the Crappie gives us a particularly good break for artificials. He so highly regards his minnows that he will strike—if at all—at nearly anything even slightly resembling his favorite dish.

It is about four in the afternoon of a sunny day. The Crappies, we know, will be down now, lolling tight-mouthed in deeper water. We don't know, therefore, just where to find them. This lake, believe me, is as strange to me as it is to you. How, then, shall we locate our fish? Shall we go back to minnow and hook and let the boat drift? No, look here now, we'll stick right to this idea we started to develop. We'll start right in trolling. No fish could be more perfectly suited in temperament to this method, even if Panfish trolling isn't the rule. We'll move slowly, and in wide circles. Eventually we'll hit pay dirt, and a lot sooner than we would by drifting.

Personally, I like this old-fashioned rowboat. I like the quiet feel of slowly, easily dipping the oars, setting an effortless pace. Oh, motors are all right, when they're needed. If you belong to

the outboard school, I don't have any argument to put up. But today you're with me, so settle yourself on the rear seat, there, of this old gray-painted tub. I'll handle the oars.

Your rod? Trolling will ruin it? Well now, it might at that. If you've an old one, use it. However, if you had taken my advice, friend, you'd have that drawn-steel rod right handy. It wouldn't cost you too much to keep one of them just for such use as this, in case you're dead set on bamboo for other fishing. Look—I'm going to lay mine over the end of the boat, let it rattle away, keep a steady arc in it from the pull of the lure all afternoon. It won't be hurt a bit. Your good fly line? Why, this won't harm it a particle! What with the sessions of fly-casting and still-fishing and stream-fishing of various sorts we've had this season, I'm set to enjoy this trolling, even if it is for *small* fish instead of the large ones we usually go after in this fashion.

Now—ah, yes—that all-important lure. Look here, in my tackle box. Here are a half-dozen very tiny plugs in assorted colors. They measure under two inches, are narrow, and extremely light. They're floaters. This gives them two advantages: if we stop the boat to light a cigarette, or while one of us lands a fish, they won't get snagged; and when evening comes and the Crappies work toward the surface, our little plugs will be there waiting. This afternoon, however, we shall have to dispense partially with one of those advantages. We'll have to go down after our game; but if we're careful of depth, we won't get snagged.

These plugs are of the Flatfish type. The slightest motion sets them cavorting in a most enticing manner. A hard pull on the oars makes them fairly scurry for cover, even though in reality the boat isn't moving swiftly. This ease of setting them in motion is a great advantage, for we may troll very slowly, yet have a lively bait working for us.

A couple of them, you'll notice, have two gangs of tiny but very strong hooks; some have two double hooks; others have

only single hooks. In each case, however, the hooks are suspended well out from the body on either side by a horizontal steel-spring wire.

Pick one up in your hand. Light? Certainly is—lighter than even a live-minnow-and-hook rig. Let's try the yellow one. It will show up well, down under a few feet of water, and will be good toward evening, too.

Here now, don't get out the split shot to attach to that three-foot hunk of level leader. It gives too much weight in one lump for the tiny plug, tending to up-end it. It also catches obstructions too easily. Here are some thin wire leaders about six inches long, with swivel on one end, snap on the other. We'll attach one of these to the three-foot gut. It will serve a double purpose. It will take the plug down ever so slowly, and we may adjust depth by speed of the boat. It will also give us a fighting chance if a Walleye or Pike happens to take a whack at the little plug as it works so diligently for us.

All set? Okay, then, toss out the plug. After it sinks about six feet, I'll get the boat moving. There, see how slowly it goes down, and of course the slower we move, the better it will stay put at that level. We'll want to keep down our speed, anyway, for Crappies are as lazy as humans, midway of the afternoon. A slow-moving lure may entice them to take a bite, but one moving swiftly will seem like too much of an effort to overhaul. That's it. Let out all the line you can. Give them a chance to run—if they hit.

You have only 25 yards on your reel? Well, what of it? You don't need even all of that. We're being quiet as mice. There! Look at that! Already! Look at the rod whip down, will you!

What's that? You're fast to a Bass? Ha! That's a big old Crappie, my friend. They hit hard, down there where it's cool—especially at a *moving* bait. Look at that first rush, eh? Just as rugged as any Bass you ever tied into. Oh, sure, it'll be over in an in-

stant—but there'll be another to match it quickly enough after you land that fellow. Just see if there isn't!

You see now what value this simple idea had? We've gone down where Crappies are, and we've found them more quickly and with more of a fishing thrill than drift-fishing would have made possible. We've hooked this one deep enough to give him a flat-sided chance to put up a short, though interesting battle.

Watch your step as you bring him to net—there he goes for that last rush. There—you've got him!

Look closely, now, and you'll see other advantages. He isn't hooked deeply in the gullet, as drift-fishing with a minnow might have hooked him. If we catch more than we want, we can release them unharmed. *But*, he is hooked with *several* small, light hooks. His mouth is not injured, yet he could never have torn free—as he might have done with a single hook.

Now that we've found one fish, we'll simply row slowly in a zigzag and circuitous course around these stumps and along the willowy shore line. Every Crappie we take will give us the very best there is in him. This tiny plug is so light and so short that it cannot possibly limit his didoes, or inhibit him.

Toward evening we'll begin to have fewer strikes. The fish will work up, and our plug will be too deep. When that time comes, we'll take off the wire leader and attach the plug directly to the gut. It will still run six inches to a foot under—more if we speed up on the oars. It will take surface-feeding fish, yet still give them a toehold for a fight.

Do you know, I have fished Crappies in this manner on evenings when I had only to stand in the boat and cast one of these tiny plugs like a Bass bug. As fast as it hit the water and was moved at all, I'd have a strike. Get quietly in among a school of feeding Crappies at dusk, and you may be sure you'll not frighten them away. You may row slowly round and round the area in which they're feeding, and catch them so fast it will wear your

arm out. The answer is obvious: they may be up to feed on insects and such surface food, but no hungry Crappie ever passed up a cavorting minnow, which our tiny plug approximates.

Such lures will cast quite well with a fly rod, if you locate fish and don't want to row your boat; but I believe you'll find fly-rod trolling good sport. There's a certain thrill in watching the tip of the rod vibrate to the movement of the lure, back there somewhere; and there's always the constant expectancy of that unseen strike. It has an excitement all its own.

As has been said, this method of mine is purely in the form of a suggestion. If you'd rather still-fish, or use a dry fly, spinner, wet fly, or whatever, by all means stick with it. You'll have good sport, because you'll find Mr. Fan-Fins extremely congenial and co-operative. Minnows, or their likenesses, will, don't forget, top any other baits you can name.

If you stream-fish for Crappies, you may also use this trolling method, just as we mentioned for Rock Bass—by paying out line as your plug floats downstream, then retrieving slowly. At least this trolling method of mine will give you variety, while you save other methods for other days and species.

However you may fish him, the "Peacock" is a great little gamester, waiting for you at every turn of the trail, willing and ready to pass out free tickets to a most satisfactory show—if you do *your* part by removing all possible handicaps. And, when he turns up crisp and brown, heaped high on a platter in the center of your evening table, he'll do a last act to that show of his which will leave a feeling of pleasant completeness with you until you cross purposes with him again.

Old Sol's Namesakes

THE AMAZING MR. BLUE!

MY GRANDMOTHER was a tough-bodied old Irish lady who thought nothing of tossing a sack of wheat over her shoulder, and carrying it from the barn across the road to her chicken coop. At seventy-odd she still raised a huge garden, caring for all of it by herself, refusing to be assisted with her hand cultivator, even during the most blistering afternoons.

When I was a kid, she was to me perhaps the most important person who walked upon the earth. Although I suspect that her knowledge of fish and fishing was extremely slight, she would be amazed to know—Lord rest her good Cork County soul—that she was indirectly responsible for one of my great and early disappointments regarding a certain species of fish.

There was absolutely nothing Grandmother Church could not do better than anyone else, including the way she tricked petu-

nias and hollyhocks and sunflowers and such into throwing a deluge of color around her house, even when a bad summer killed off every flower in neighboring yards for miles around. The flowers contrived with my grandmother to direct my bitter disappointment about the fish in question.

Surrounding the box alder tree behind the cistern, and likewise giving a colorful refuge to the tiny white backhouse beyond, were tangled exhibits of morning-glories, with pink, white, and blue flowers poking shyly from dew-wet green vines. One summer when the morning-glories had outdone themselves, springing forth in such profusion that a path to the privy had to be opened through to give easy access to such an important unit of country construction, I happened to hear Mister Richardson telling a neighbor about his extra good luck with Bluegills over at Powderhorn Lake.

Somehow I gathered the idea that a Bluegill was a fish very similar to the Sunfish which I knew from our days upon the Flint. Possibly this was because Mister Richardson mentioned his catch as being made up of "Bluegills and Sunfish about even." Consequently, when I heard him say further, "I tell you, they were beauties. They'd put them Sunfish to shame," I stood immediately in awe of the picture forming in my imagination. A Sunfish, to me, was the most beautiful fish ever caught anywhere in the whole world. Undoubtedly, then, the Bluegill must be a fish so colored that the brilliant Sunfish would seem drab by comparison.

This idea grew in my mind, and the term "Bluegill" brought forth visions of a Sunfish-shaped fish with gills bright blue instead of red. In fact, the blue began to spread, until the entire head of the fish was the most amazing, iridescent blue you could imagine. It was getting well down along the body, this particular morning, when my grandmother came down the path through

the morning-glories to instruct me in no uncertain terms that privy doors were to be closed when you were inside—or did I want the neighbors, passing by, to think we were a bunch of wild Indians living in a hurrah's nest, with no regard for decency?

That brilliant blue fish was uppermost in my mind, and as the profusion of blue morning-glories was directly in my line of vision, I thought it a most opportune time to inquire whether or not the Bluegills Mister Richardson had caught were really as blue as those flowers. This, I hoped, might short-circuit Grandmother's anger at my lack of foresight, and at the same time substantiate the figment of my imagination.

Yes, she told me, there was no doubt that the fish Mister Richardson had caught were altogether as blue—all over—as those morning-glories, and just let her catch me forgetting to close the door again and she'd fix my little backside to match.

That settled it. That, in fact, settled both questions. From now on I would remember the tenets of common decency, for Grandmother's word was uncommonly good in regard to promises; and Bluegills were bright blue, all over. Grandmother would know.

It was not until several years later, after her death, that I caught my first Bluegill. There is an odd lack of parallel in the impressions which followed. First, I was disappointed almost to the point of tears in the fish which dangled at the end of my line. I refused to believe for some time that such an ordinary-looking creature could be the one I had pictured as far surpassing my former brilliant little prize, the Sunfish. But, secondly, this drab creature of my disappointment was to become to me, as the years trickled down the river, the embodiment of all that is sporting and sprightly among fishes of all sizes and kinds—The Amazing Mr. Blue!

Let us look this little character over in a general fashion. It is indeed odd, when we consider what he has to offer, that he was

so long in coming into his own as a sporting fish. I believe it may be stated that nowadays he does have a host of friends who consider him very nearly on a Game Fish basis.

First in importance, perhaps, among those points which lend him stature, is the fact of his wide distribution. Although he is not always called "Bluegill," nonetheless he is the same fish whose praises are sung both at the end of a light line and at the table throughout dozens of states. His wide and abundant distribution comes about because of his adaptability both to various kinds of habitat and to the intense pressures of civilization. Seldom, when you find Bluegills, do you find them in diminished numbers. The amazing Mr. Blue has no intention of letting his race die out.

Thus, because of his abundance in many places, a great number of fishermen come in contact with him. Now this would be a valueless situation, if Mr. Blue were choosy or uncongenial. But, no, he is the sort who willingly offers up his chunky self to the gods of sport and good eating. Not, mind you, in a manner of throwing himself blindly at the sportsman. Indeed not. You may take your limit of Bluegills on almost any day when you discover their whereabouts; but you may not set about it in too crude a fashion—not often, at any rate. Mr. Blue has a quick little brain, and good fish sense, which is to say that he can be erratic at times, stubborn, selective in his taste for lures, and generally recalcitrant to a degree which keeps an angler's interest just one jump ahead of his temper.

Now then, we come to the next most important point. Here we have a fish which is widely distributed, abundant throughout that great range, and selective enough in his tastes at any given moment to make him intriguing. Look closely at those tastes. What do we find? Why, here is a fish for the bait fisherman, the wet-fly expert, the dry-fly enthusiast, the spinner man, even for the caster of small plugs! The bait gatherer may choose any one of a dozen delicious morsels, and be well rewarded, and the arti-

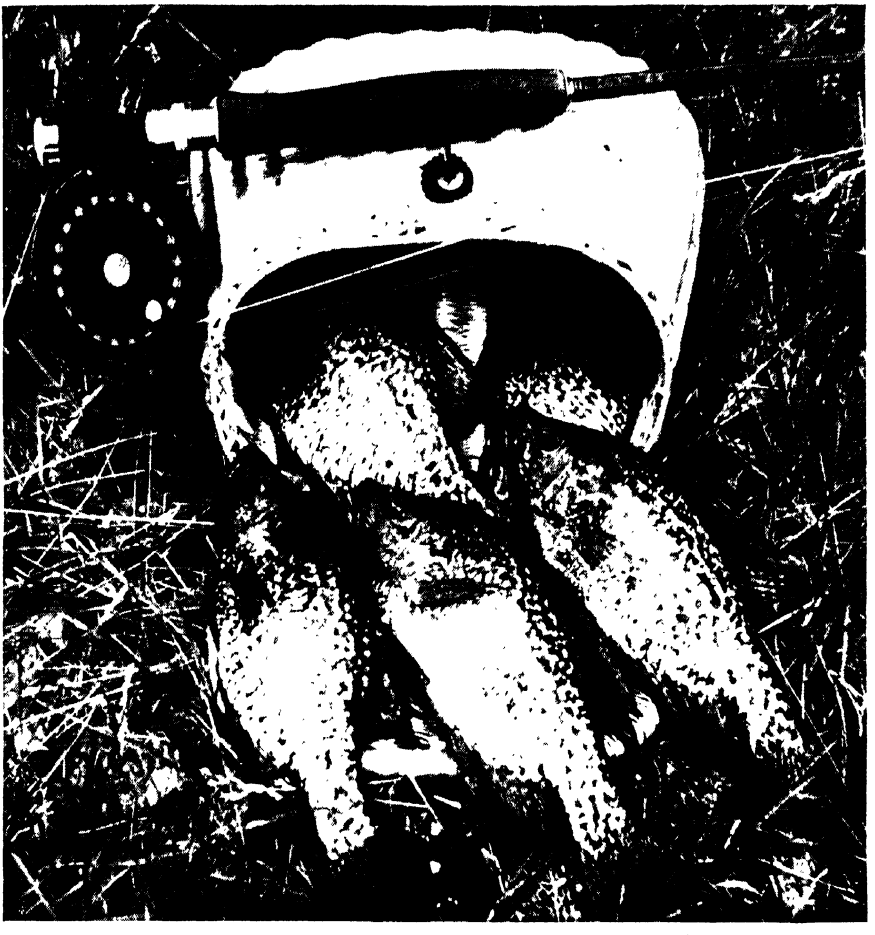


PHOTO BY CLEMENT CROUCH

What sight could better satisfy the angler's eye than a creel full of Crappies glinting green and silver in the sun?

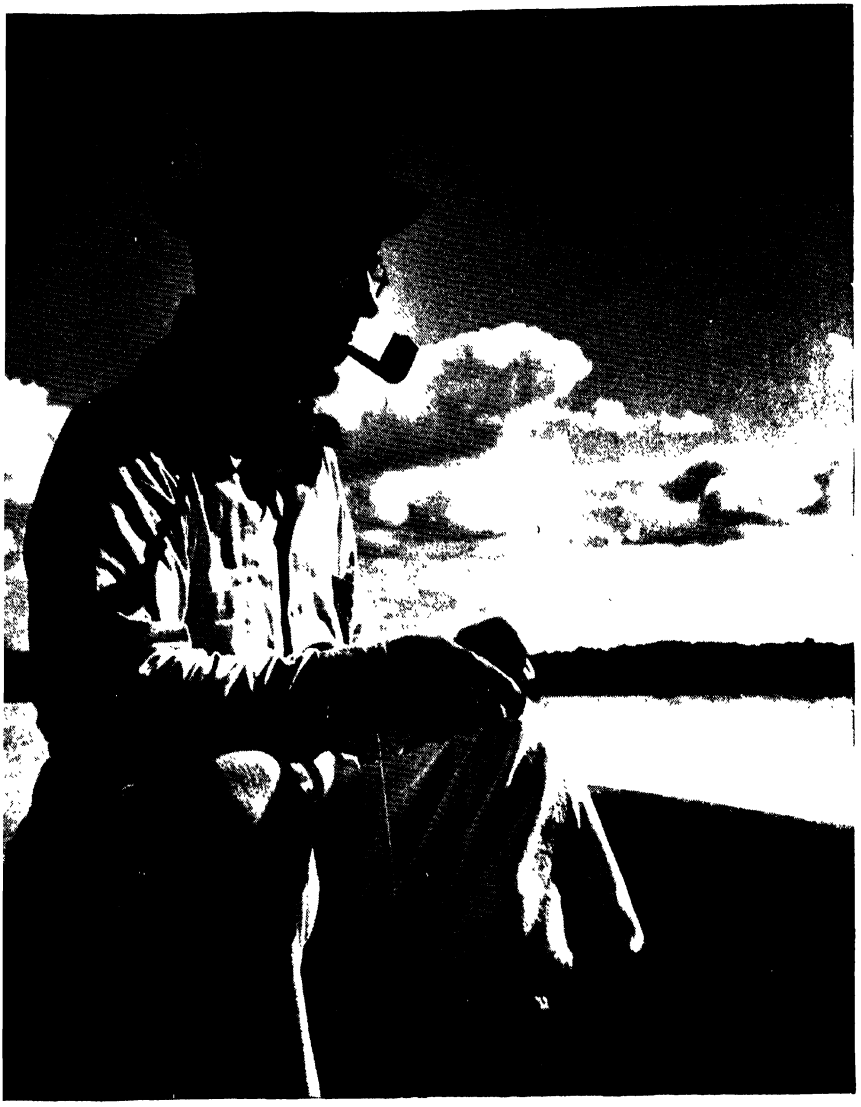


PHOTO BY CLEMENT CROUCH

Still-fishing, holding that sensitive fly rod and waiting for a big Bluegill to strike, is a kind of lazy pleasure no other sport can touch.

ficials enthusiast may choose from the whole range of lures set before him.

But *still* the amazing Mr. Blue goes one step further in his effort to top any Game Fish which swims our waters—he is, ounce for ounce, undoubtedly one of the fightingest fellows you may angle. I would be willing to state that I believe the Bluegill, *for his weight*, puts up the best battle of any of our freshwater fishes!

Now you may take exception to that. You may even be ready to laugh cynically at me for making such a statement. All right, let us compare some fishes momentarily, not, to be sure, in a manner to cast aspersions against the others—remember, we said long ago that comparisons were out—but simply to see how, according to our old conceptions, Mr. Blue stacks up. We are talking now merely about how big a bend these fish put in a rod of the same weight used for all of them, how long they keep it there, and how sustained and concentrated the fight.

From a lake and stream close together, I have caught these four fish, all during a single afternoon: Brook Trout, Walleyes, Smallmouth Bass, and Bluegills. Now of course each of these fish fights his battle in an altogether different manner; the Brookie with great spirit and frenzy, the Walleye with a dogged, stubborn hanging-back, the Smallmouth with leaps and runs and ripping line, the Bluegill with a continuous building of circle upon circle in the water as he stubbornly presents his flat sides to the force of your pull.

Thus, I believe we should have to consider the *tempo* of these battles in order to compare them, and we should have to measure fisherman reaction much as applause is measured in a radio studio —that is, we should consider the *degree of excitement* in relation to the tempo of the fight. Measured thus, the Walleye would lose out immediately. He is a fish who takes *handling*, and who gives two thrills: at the strike and at the net, as a rule—and we are speaking now of small Walleyes, not the lunkers. The Small-

mouth is a wonderful fish, but I will tell you that I have taken twelve-inch Smallmouths and large Bluegills from the same lake —as on the day mentioned—and they did not even compare, when we consider tempo and degree of excitement without letup. A large Bluegill is a *real* battler. His only mistake is that he never lets up for a single instant. Thus, he tires himself more quickly than some of our other fishes.

As to a rating of Brook Trout and Bluegills—well, I must admit that I am the next thing to being in love with Brook Trout. I cannot honestly say, however, that it takes me any longer to bring a ten-inch Brookie to the net, than it does a ten-inch Bluegill. The tempo of these battles will certainly compare. The Bluegill will put a more alarming bend in a light rod than will the Trout, and he will keep it there constantly until netted. The Trout has him licked in only one way—he fights a better-directed, cooler battle, *thinking* (if I may use the term) of what he should do to get away, rather than tearing circle upon circle in the water. But again, Mr. Blue will show *him* something, and that is greater abundance and willingness. When the big Bluegills are on the prod, you may take one after another until your limit is filled. This is not often the case with Brook Trout, at least not to the same degree.

I know, of course, that ordinarily one does not find lunker Bluegills common throughout the entire range of the fish. Certainly I am not versed as to the size of Bluegills in a great many areas. My main bouts with Mr. Blue have been fought in Michigan, where we have two distinct sizes. Throughout the southern part of the state most of the numerous lakes contain what we'd call big Bluegills—that is to say, fish up to eight inches. They are big, it is true—until you've had a taste of Bluegill fishing farther north. Once you get a couple of hundred miles above Detroit, you begin to take Bluegills that *are* Bluegills. I have taken my limit some afternoons on certain northern Michigan lakes when

I'd simply sit and stare at 'em as they came into the boat, hardly able to believe that they *were* Bluegills.

When you get into these *really* big Bluegills, my friend, you have a worthy foe in any man's language. Their size indicates good health and habitat, solid flesh and strength.

You may begin to suspect from the enthusiasm of these pages that the Bluegill is my particular pet among the Panfish. Well now, you may be right. Although I dislike the idea of playing favorites among our sporting fishes, I do believe the Bluegill rather epitomizes the various sporting attributes of our smaller fishes. That is not to say, of course, that his close cousins among the true Sunfishes do not have points in their favor. We will here give the greater share of attention to the Bluegill merely because he is the largest, generally speaking, of our true Sunfishes, and perhaps the most highly adapted of any of them to methods of refined angling.

It is truly amazing the number of Bluegills caught each season. The total is numbered in millions. But what is more amazing is the percentage of this catch that gets yanked from the water with the old cane pole. Given a fish like Mr. Blue to work with, such methods certainly are a waste of good sport. Light tackle is right down this little man's alley!

There are times, of course, when artificials won't do the trick as well as live bait. And here again, even with live bait, we often find the Bluegill very selective. You have seen it happen many times—you're sitting in your boat, still-fishing for Bluegills, and not catching a single one, while the boat not ten rods from you is hauling them in. Many times this situation comes about because you do not have the bait Mr. Blue seems to crave. It also happens that often his legions have congregated about a deep spring, a hole, a certain kind of weed bed, etc., which we don't see from the surface, but which nonetheless keeps us from doing as well as our neighbor.

I believe we might lead up to a discussion of bait first, because all too often the Bluegill enthusiast sticks to one kind when he might do far better with another. There are certain unusual, or unorthodox, types of bait which are sure-fire killers in nearly every instance. They are not as a rule quite as easy to come by as the good old angleworm.

Obviously, with the Bluegill population spread over such a great range, there are bound to be various kinds of bait in certain sections that may not occur in others. You see, Mr. Blue's original range was large to begin with. He inhabited waters from Maine westward to Minnesota, south to Texas and Florida. However, when his excellent sporting and eating qualities began to be known, and the ease with which he might be reared and planted was appreciated, as also the numerous climates and types of water in which he would thrive, he began to get a great deal of attention from Federal and State authorities. Today, to the best of my knowledge, he is found not only in every state in the Union, but also in Canada. The only state about which there may be a question is Rhode Island.

It is a good idea for us to get in the habit of appraising bait and fishing methods by studying the fish themselves, even their general *shape*. When you look at a Trout, you can see how perfectly he is adapted in body shape and construction for his life in swift currents. Certainly the Bluegill is not. From the very look of him, you would expect to find him in quiet water. His build is not adapted to battling white water. You may now and then, of course, find him in large rivers, but certainly not in the currents. Coves and eddies, if not too sluggish, make a home for Mr. Blue in such environments.

The lakes and the ponds are his choice, and the type of bottom doesn't matter too greatly, as long as plant life is abundant, so he and his buddies, traveling as they do in schools, may congregate about stumps, logs, or in deep weed beds.

You might expect that a fish living in such surroundings would

take small fish as his food. Ah—but look at the physical characteristics of this little fellow again! His mouth is by no means large enough to give him such latitude in tastes, nor does he have teeth with holding power. Oh, it is true that an occasional small minnow does get into his diet, and it is also true that at times the Bluegill may be caught on very small minnows. As a rule, though, minnows are not the best bait.

I have had large Bluegills strike at plugs, and very recently I caught several by trolling with a small plug. I would not recommend this method, however, for I don't believe it is as productive as some others.

If you want to get old Mr. Blue worked up over a meal, don't be afraid to try new types of live bait. I recall a summer, which I believe was mentioned in an earlier chapter, when I learned about "catawbies." "Catawbies" is a local name for the larvae of a butterfly. The worm is about an inch long, green with dark stripes, and about as big around as a lead pencil. The fisherman who taught me to use them would shake them from the trees on which they naturally feed—the catalpa tree (from which the name "catawbies" grew)—throw a few leaves into the bucket, and set off for the lake.

This particular lake in Ohio had a great number of large pilings near the shore, in water some twelve or fifteen feet deep. The old-timers knew exactly where to drop the bait—right beside one of those pilings. You simply take the catalpa worm and cut it in half—a messy business—thread half on a very small hook, and cast it out where it will settle down along the side of the big underwater post. I have never seen such strikes as we got! Wham! Those big Bluegills would hit as hard as any Bass you ever saw. In this case, as was mentioned regarding the Rock Bass, careful placing of the bait got the best results.

Now I wouldn't be the one to spend the rest of my fishing days cutting up catalpa worms, for to my way of thinking the job is not particularly pleasant. But the illustration will show what new

ideas about Bluegill bait will do. We used the old-fashioned angleworm under exactly the same conditions—and day after day could not take a single fish. Why? I haven't the faintest idea. Surely catalpa worms were not falling into the water naturally, so that the Bluegills habitually fed on them. I am inclined to think that any light-colored worm or grub, because it is obviously good to eat and *strange to the habitat*, may often have more appeal than an angleworm.

Spiders are an excellent bait. We'll have more to say about them presently, for it is my contention that artificial spiders have real spiders topped. In the South, cockroaches are a favorite. Crickets, of course, are standard. They are somewhat of a job to acquire, and a worse one to keep on a hook, particularly if there are small Bluegills interfering. But they are undoubtedly better bait for large Bluegills than are angleworms. Corn borers are sensational. In my part of the country, we use them in the wintertime, and catch Bluegills through the ice with them. During the summer, however, you can find corn borers in abundance —all too often, as far as the farmer is concerned—by walking through a standing field of corn and looking for droppings upon the leaves or husks.

I suppose a Bluegill is just like you or me—he likes a dainty now and then. Although you don't eat scallops or clams or frogs' legs, or even T-bone steaks every day, you still jump at the chance to tie into such a meal when the opportunity is afforded. Well, sir, if you want to see Mr. Blue tie into a meal, even when he stubbornly refuses to take any other offering, just find a hornet's or yellow jacket's nest, when the larvae are about grown. Without a doubt there is no better bait for Bluegills. Such larvae are hard to come by, I know, but they are as sure-fire as any goodie you ever offered to a fish! I know of one Bluegill enthusiast who raises bees for the sole purpose of getting the larvae for bait!

Another very good all-around bait is the grasshopper. I have never seen the time when Bluegills would refuse grasshoppers, if they would take crickets or worms; and grasshoppers are far easier to catch, as a rule, than are crickets. They also have the added advantage of being lighter in color, which may give them greater power of attraction than crickets, in certain waters. And above all, they are far tougher. In fact, a grasshopper will stay on a hook about as well as an angleworm, and will stand several strikes that don't connect, a procedure certain to dissolve a cricket.

Now then, I am going to state a couple of opinions which may be quite wrong, or quite right, depending on how willing you are to accept or reject new or different ideas. Some years ago, when I was in school at the University of Michigan, I did a considerable amount of fishing on a small lake near Ann Arbor. It was stocked whenever necessary, and the Bluegills were abundant. Whenever I recall that lake, I see an enormous snapping turtle, with a head as big as my two fists, which always used to put in an appearance at the end of the lake where I chose to fish. For no reason at all, I would drive him off and drop anchor at about the spot where he had been. I had read many times about what size hooks to use for Bluegills, and I followed those directions, getting long-shanked "Bluegill hooks," as they were often called, of a size around 6 or 8, poking one into a cricket, and proceeding to fish.

I caught Bluegills, of course, but I had a lot of trouble trying to keep those crickets on the hook. Bites I'd have galore, but only about one fish to ten strikes. The more I thought about it, looked at that turtle, and then at the Bluegills, as they came into the boat, the more I decided that all the advice I'd read about hook sizes and kinds was a lot of rot. Those hooks were almost big enough for that old turtle!

Soon I was reasoning further. As a rule, a large Bluegill does

not nibble at a bait. He is too crafty. He looks the situation over, and when he makes up his mind—he hits! Bang! No matter how big he happens to be, he still has a comparatively small mouth. So then, using a cricket and a long-shanked hook of size 8, or even smaller, the fisherman, it seemed reasonable to me, was handicapping himself. A cricket is just about the exact-size mouthful to fit an average-sized Bluegill. A cricket with a long-shanked hook inside is not. Definitely.

So, what happens? Mr. Blue takes a bang at the cricket. Now and then he gets hooked. Many times he merely succeeds in mashing the soft bait to pieces—and never feeling the hook at all.

So let's see. What could we do? Well, it happened that at that time I had numerous small Trout flies gathering dust in my tackle box. Suppose I picked a small Trout fly of about size 12, let us say, one with some stiff, short hackle which would move in life-like manner in the water as the fly sank down? Fishing with it would, of course, be called wet-fly fishing, and it would be an all-right idea. However, if the Bluegills happened to be a little slow, or my line somewhat slack, I might find that Mr. Blue had made his dare and spit out the fly. But, if I attached my cricket to this small hook, right beneath the hackle, I would have a legitimate morsel of food to offer him—and one which would exactly fit his mouth. He would know at the very first taste that it was good, and would thus have no inclination to spit it out until too late.

So it was that I came into the habit of using an old fly as a bait hook for Bluegills. You have read that long-shanked hooks are best for Panfish, because they can be more easily removed. Well now, the term "Panfish" takes in a lot of territory, and a lot of various-sized mouths. There is altogether too much writing about fishing for Panfish as if the term covered but one species. The mouths of the Sunfishes are small, as are their throats. A long-shanked hook presents a larger bait, particularly because

you are inclined to fill it full. Thus, very often, yo have nibbles which result in hooked fish—hooked, indeed, fa lown in the gullet.

A small, short hook, on the other hand, presents a small, compact bait. Most Bluegills or Sunfish will strike such a bait a more lusty blow. Put yourself in their place. You would approach a fried chicken heart quite differently from the way you would set about eating a drumstick. Thus, when Mr. Blue smacks your small Trout-fly-and-cricket (or worm, grub, or grasshopper) combination a hard blow, he gets a mouthful. He has not had time as yet to swallow it. You, in striking, hook him invariably in the lip, as is most often the case when you use artificial flies. Fact is, I have fished in the same boat with a friend who used orthodox, long-shanked, overly large hooks, and have licked him time after time, not only in numbers of the catch, but also in size and ease of hook removal.

Perhaps the small fly isn't necessary at all. Maybe a small, short-shanked hook of the same type would do just as well. I am convinced, however, that a bit of hackle about the cricket, grub, or piece of worm, adds to the attractiveness of the bait—that is, makes it appear more lifelike in the water. As I said in the beginning, these are merely my own opinions, because the ideas work for me. I think, however, you'll find them not bad ideas.

For instance, you will hear it said that you should let the ends of an angleworm dangle from your hook when Panfishing. Again I say there is ever too great a disposition to lump the Panfish together. For a Rock Bass in a stream where the current tumbles a worm along—yes, I would leave a *small* amount of worm-ends dangling. By doing the same for Bluegills, you are only inviting an empty live box.

Well, that is quite a lot of talk about bait. Perhaps you wonder why. It is true that the Bluegill is most perfectly adapted to the use of artificials. He is, however, also as well adapted to the use

of a very great variety of baits. Besides, there are many fishermen who prefer to fish with bait. My hope is to convince those fishermen that they can get more enjoyment from bait by using light tackle.

There is another reason why I have taken up so much space discussing Mr. Blue's normal tastes. Let us get out our fly rod and get into the boat and go out after Bluegills, while we talk about artificials, and then, perhaps, get back to live bait again. Slip in that jar of grasshoppers, too, because we may want them later on.

Do you see, over there along the shore where the hills slant down to indicate a quick drop-off to deep water, the Bluegills are surface-feeding, grabbing insects? If we hike right over there, we should have the time of our lives with dry flies. But wait now, before you pick out that gaudy fly. Let's consider the wisdom of it.

Invariably you will have read, or have been advised, to use bright-colored flies for the Panfish. There is absolutely no sound reason why that should be so. It may be that you can take Bluegills on small gaudy flies; but I defy anyone to prove to me conclusively that the brightness of them begets the results. There has, of course, been a great deal of scientific research on color vision in fish. Furthermore, it has been rather well established that certain species, at least, do distinguish actual colors aside from black, white, and shades of gray. Granted that such be the case, there is still no legitimate reason why a red fly tied in the form of a grasshopper should be better than a grasshopper-colored fly tied to resemble a grasshopper.

Various researchers in the color vision of fish have discovered that certain species have a wider or more narrow range of color distinction than others. I do not believe it has ever been established that any species had exact *preferences* for certain colors. To prove ability to distinguish is one thing—to prove preferences is quite another.

A friend of mine once tied up some small bucktails to resemble crickets. He pursued the interesting hobby of wading after Bluegills—a hint incidentally from which you may gain some good days of sport. He would wade the shore of a likely lake along toward evening, when Bluegills invariably come in along the weed banks to feed, and would cast his bucktail crickets with excellent results. The little flies he used looked exactly like crickets. They were jet black, and the same size, which, according to my theory, helped the results along, for a fish grabbing the lure in one mouthful was hooked, just as in Trout fishing, before he could spit out the fly.

There was some argument among enthusiasts at camp, up on Otsego Lake near Gaylord, Michigan, as to whether or not the Bluegills knew what they were up to. This argument came about because of the old advice—bright flies for Panfish. So what did my friend do? Very simple. He tied up some exact replicas of his black bucktail crickets—only he made them white, *and* didn't succeed in hooking a single Bluegill!

I can't tell you exactly why this should have occurred, either, because I am not one of those who believe that crickets and grasshoppers and corn borers and bee larvae and catalpa worms abound in any lake as large as that. Yes, I know, we read just as often about picking a spot where various kinds of bugs and worms fall into the water. You see, I am attempting to point up, in this particular chapter, the false nature of a great share of fishing advice, so that, as stated earlier in the book, we may come to listen and read, yet have a good, healthy skepticism until we *know* that a theory is or is not so.

I can tell you why I *think* the white bucktail cricket drew a blank. Look at it this way—undoubtedly no great amount of crickets find their way into Bluegill stomachs through natural means, yet we cannot deny that they make good Bluegill bait. Further, a black cricket may slightly resemble any of a number

of dark-colored bugs, and a black bucktail cricket may by its very *lack* of color look like a legitimate mouthful of food. A white one, on the other hand, may by its very whiteness show up in high detail all of its imperfections and tend to make fish wary, because seldom does a creature of that sort occur in their habitat.

The reason I think this may be so is that I took some small white, or very nearly white, bucktails tied in a similar manner and fished them *dry*, whereas my friend had fished them *wet*—and I took Bluegills with them. I do not believe the color had anything to do with the matter. The fish simply approached from a different angle. A certain number of *winged* insects do fall on the water out over a lake. Once down, unless dead, they attempt to rise again. The *motion* of such insects, if copied in a natural manner by an artificial fly, undoubtedly is the impetus, in Mr. Blue's mind, for his strike—and it was the motion I gave to the white flies, I'm sure, which fooled the fish.

So now, suppose you pick out a fly of one of those small grasshopper patterns, or a small brown May fly pattern, or any one of those conservative copies from Nature on a 12 or 14 hook which will float well, ride high, and stay dry when you give some motion to it. We aren't going to have any difficulty locating Bluegills this late afternoon, for we can see them dimpling the water here along the shore. We'll stay just at the edge of the drop-off, casting in over the weed beds where there's a good ten or twelve feet of water under us. We'll watch for rises, and drop the fly in that general vicinity.

Leader? Of course. We'll attach a leader of 7½ to 9 feet, and fish with just as great care and precision as we would use for Trout! What we are after are those big Bluegills, and believe me, they are wise ones. It's so calm that we won't bother to drop anchor. Just let the boat move as it will. If it becomes necessary to put down the anchor, we'll do so with extreme care.

Big Bluegills don't like to have hunks of iron splashed into the water when they're feeding.

There now, take this little bottle of fly dope, which is really only a mixture of paraffin dissolved in energine, and waterproof your fly with it. Dip the fly into the bottle, then withdraw it and shake off the excess so the fly won't leave a trail of grease on the water. Make a couple of false casts to fluff the fly out and dry it.

All right. You've all the room in the world. No brush to catch your line. Make as long a cast as you like. There! See your fly swish down and hit with a little spat which makes circles in the water? Let it lie right there for a moment. Every Bluegill within ten yards saw that fly hit. Perhaps one of them is on his way to look things over. Count off about five or seven seconds. Now! Give it just the slightest twitch. Easy. Now two more such twitches. Don't jerk it along, nor impart to it a steady, pulled motion. That fly of yours is a little bug that dropped out of the air and is weakly trying to rise again.

Look at that! *Splash!* Why didn't you strike? That was a good one—Oh, well, pick up your fly and start over. He won't hit it again. Pick it up easily—don't rip water with your line if you can avoid it. Remember, it is calm as glass out here. The less disturbance, the better. I know, those little ones right here by the boat don't mind. But the big ones do. That's how they got big.

There, that's a good cast—just enough of a spat with your fly to attract attention. Now, move it just a—Strike! Good, you've got him—and on a long line, too, which means a longer battle. Look at that rod bend! Notice the steady, frantic fight he puts up. He bores down constantly, keeping his flat sides always against your pull.

Circle after circle he makes, headlong. Don't horse him. And *don't* give him slack. He'll shake that hook out of his lip in a hurry. Just let him fight his own fight and keep bringing him in a little at a time. I'll get the net ready; but remember, you

won't net him easily. He won't come in and flop into the net. No, sir! He'll keep up those circles until he can't move. The moment he sees us and the net, down he'll go again.

All right, he's circling back once more. Lead him in, carefully, and I'll scoop him up. There! Isn't he a beauty? He'll go nine inches—not a prize specimen, but a good one. And tell me, did any nine-inch fish ever give you more of a thrill? Your rod was bent in a circle from the time you hooked him until he hit the net!

Indeed, Mr. Blue was cut out to be a dry-fly fish. You'll not get long stretches of dry-fly fishing for him, as a rule. He won't feed too long on the surface. But when he is up, he hits a dry fly like the amazing little character he is, with all the *smack* and gusto of a Trout on the take.

The fact that so many methods of fishing seem to fit him so perfectly makes it difficult to choose any one. Whenever I discover that Bluegills are up, I can't wait to get into them with dry flies; there is no better sport in the whole fishing world. Undoubtedly, however, the wet fly is a better all-round method, for with wet flies the length of time you may fish them during any one season will be longer. That brings us around to spiders.

If you can get, or tie up yourself, some artificials which resemble spiders, you should do very well with the Bluegills. They have to be a good likeness, and they have to sink in a natural manner, with the rubber legs vibrating as they slowly tumble in the water. Unless you absolutely have to, don't use any split shot. When you do use it, use a very tiny one. Simply cast the fly out near a stump, or log, or, for that matter, at the deep edges of the weed beds, and let it sink naturally, twitching it a very little.

Keep your line tight enough to allow you to strike. Once the spider has gone down to a good depth, move it slightly, letting it sink again. The extra big fellows delight in slamming into such a lure with a strike that'll remind you of a Black Bass. Use a good

long leader, for you'll have quite a length of line under water also, and you don't want to frighten the big ones.

I think we might say just a word more about that. In many lakes fishermen take Bluegills of a medium size, never realizing that much larger fish exist in the same waters. Almost invariably the reason the large ones are not caught is th . the rig the fisherman uses is too crude. An old Bluegill is a hard customer to fool, and furthermore, he stays most of the time in deep water. We are inclined, when bait- or wet-fly fishing, to continue fishing at a nominal depth as soon as we get strikes there. Many times it is the little fellows who are giving us all the excitement, for they will strike at almost anything. Care in setting up our rig, presenting our bait, and the depth at which we fish are all most important if we want to take big Bluegills.

I recall a summer at a lake called Walled Lake, during which a Texas lad and I went out each day with a line to sound the bottom. Everyone said the fishing was poor, which it was; but we would have bet our fly rods against a pair of leaky boots that the big Bluegills were spending the hot weather a lot deeper than most of the old-timers thought.

We discovered a sort of channel on the bottom, which ran from a cove out into the lake, and which, between two points of land, went down as far as sixty feet. We decided artificials would be difficult in such depths, so we collected grasshoppers and crickets. I, with my pet notions, carefully removed the long back legs from the grasshoppers as I put them on my usual little stiff-hackled Trout fly. This—so I fancy—tends to make the bait more compact, and to avoid dangling parts which may be nipped at and cause false strikes. I want my Bluegills to grab the *whole* bait at one snap.

We went down around forty feet—and we started catching the biggest Bluegills and Sunfish a fellow could wish to gaze upon. Bringing a big Bluegill up from that depth is *real* sport. Day after

day we took our limit, which, at that time, was twenty-five fish each. And we had the old-timers in a dither. They fished deep in midsummer, too—but not *that* deep.

In early morning and late afternoon, of course, the Bluegills will drift inshore, if it is cool, but as a general rule it is the little fellows who consistently hang around the safety of the shallows. The depths at the end of a rocky point, or at the edges of a steep-cut bank, or where sunken logs and stumps lie deep—these are the hot-weather homes of Mr. Blue.

I have heard it said that spinners are an apt lure for Bluegills. I have caught them on spinners myself, but I am not a spinner enthusiast where these fish are concerned. Outside artificials, spiders and crickets fished wet, or small dry flies, I am inclined to believe that the old cane-pole fisherman has at least one good idea about Bluegill fishing, and that is simply sitting in a boat and still-fishing. Along with wet and dry flies, this is one of my favorite methods. The only change I have made in the old-timer's method is to exchange his cane pole for light tackle.

During the past summer I spent some most exciting afternoons of still-fishing for Bluegills, with an occasional Smallmouth Bass thrown in. Well do I recall the first day of it. The wind was from the west, the lake was large, and there was quite a bit of water kicking up beside a long row of big pilings on the east side. A native told me to fish along those piles. I did. And I didn't take a fish for an hour.

I began to look around, and discovered that directly across the lake a high chain of hills came sharply down to the water, with forest crowding the bank. Over there in the lee of the hills, I surmised, the water would be entirely calm and deep, dropping off at a steep angle, with weed banks looming up close to shore. Undoubtedly the bottom would be rough and rocky, and also strewn with logs and sticks which had tumbled in from the rim of thick forest.

And so I decided to do exactly the opposite of what the native had told me. Lo and behold, over against that bank, in calm water just at the edge of the drop-off, I began pulling in big Bluegills as fast as I could bait up. Here again let me mention depth. In this particular case I discovered that a move of only a foot made a great difference in my catches. Apparently smaller fish were feeding closest to the surface. Therefore, my plan of attack was to put a small split shot directly above my fly--in fact, tight against the knot of the leader, then thread a grasshopper on the hook, tail end first, so that the solid part of his head made a brace for the hook point. Thus he could not be ripped off so easily by a false strike.

Now I paid out line and went clear down until I hit bottom. Then, raising the bait about a foot, I waited. At first, no results. I gave this depth a good trial, then brought the bait up a foot, and so on, until the first hard strike came. At a possible cost of losing the fish, I quickly tied a loose knot in my line at the reel. As it turned out, this act did cost me the fish, and apparently he was a dandy. But now I had only to haul in and tie a bit of thread around my line at that point, then try again.

As it happened, I was dead right. That was where Mr. Blue wanted me to feed him juicy grasshoppers. I caught ten in short order; then things stopped dead. I tried different depths, to no avail. My partner insisted that we move on. But no, I was stubborn. It was sometimes a good plan, I had found, to wait around when matters came to such a pass so suddenly. There were big Pike and Walleyes in this lake. Perhaps one had come swimming by and frightened the Bluegills, or perhaps the school of Bluegills had moved on. If so, there must be other schools on the move along the shore. A few minutes might bring a reward of more strikes.

Again I was right. Half an hour of silence, and then—*Wham!* My partner started things off, with me following. We took and

released a couple of dozen fish apiece, and still kept a nice hand-picked mess to take home.

I think my pleasure in this sort of still-fishing harks back to my kid days on the Flint. There is a tremendous amount of enjoyment in lolling in an old rowboat, taking one's ease, then suddenly being alerted by a yank on the line. I never use a bobber for this kind of fishing, for I am inclined to the belief that it spoils a part of the thrill, and also handicaps the strike of the fisherman, causing lost fish.

Rods bend and old reels rattle to the wild didoes of Mr. Blue as he carves his circles in the deep water. One big one is brought in, only to have another follow quickly. When matters are really looking up, it is not uncommon for both fishermen in a boat to have a fish on at the same moment, often with a laugh to be got out of crossed lines and the high excitement which can come even with a lost fish.

I am not an expert on stream-fishing for Bluegills, although I have taken some in streams. Now and then you may find a spot at a small power dam which will literally teem with Bluegills when the powerhouse is not in operation, thus leaving a deep, quiet pool outside the spillway. I have never taken very large specimens from such places, however, nor have I ever taken very large Bluegills from streams. It is generally conceded that large, sturdy fish grow where they have to battle currents, but my experience has not proved this so with the Bluegill. He grows positively huge in some of the deep northern lakes, and in the southern bayous, seeming to thrive on a life of ease and good eating.

Of course, there are numerous lakes which are simply overrun by small Bluegills. Conservation men are beginning to discover that these lakes, in a great many cases, are filled with stunted fish. The population has become too great for the food supply, and the species has bred itself out to thousands of runts. Such lakes, where you continually have bites but always pull in

small fish, are best forgotten, I believe. You may get the idea that there are big ones around, and it may be that there are; but if you have tried all depths on numerous occasions only to take small, runty fish, then you'd better find a new lake and wait for your conservation department to clean the other one out.

I think one of the most intriguing aspects of Bluegill fishing is the amazingly varied specimens that may be taken, often from the same lake. This takes us back to the earlier warning about attempts to identify a fish by its color and markings alone. Very large specimens are usually old, and almost invariably will have lost the vertical body stripes so characteristic of the species. Thus the stripes are no criterion. These old lunkers are often of a dark purplish hue, with the breast, or throat, dull burnt orange, or sometimes very nearly black or dark blue. They usually have an extremely large, black opercular flap, and look not at all like the fish we ordinarily think of as a Bluegill.

Offhand I can think of numerous bodies of water from which I have taken specimens with color peculiar to the particular lake from which they came. Up at the Sanford Dam backwater, previously mentioned when we discussed Crappies, the Bluegills are extremely pale and brassy, with vertical stripes indistinct. From a southern river I once took specimens with an iridescent bluish tinge, and from a northern lake some brilliant green ones. In some the breast will be bright yellow, in others orange, and still others bordering on a brilliant rust red.

The identification of the true Sunfishes is a difficult and complicated business. Most of us probably recognize a Bluegill when we see one—but not always. Although, as has been said, the vertical dark body stripes are not conclusive evidence, they are the best of the uncertain tags by which the Bluegill may be identified. In order to tell which fish is a Bluegill, we must, of course, know which it is *not*, and therefore we may as well talk right here about Sunfish identification.

Because of the fact that it is complicated, both to the scientists and to us, and that both camps are somewhat confused about it, I want to approach the whole business in a most general manner. First of all, the various Sunfishes have been much handled by Federal and State agencies, so that their native ranges have been broadened immensely. Thus we may draw no secure lines to set apart the domain of one from another. Next, over such wide ranges there are innumerable differences in temperature, water conditions, and general habitat, and these evidence themselves in all kinds of color phases of the same fish.

These various phases have become so well consolidated in various regions that scientists have seen fit to set up actual sub-species, which are both confusing and controversial, not only among fishermen, but among the scientists also. Thus, for our purposes here, we shall entirely disregard aberrations, variations, and subspecies' names as well. But if we do that, we must speak in controversial terms ourselves—which is to say, we must take a very broad and general view, with the idea in mind of getting only a very elementary start in identification, for otherwise we might find that your Bluegill and mine were quite dissimilar.

In addition to all the ordinary complications, the true Sunfishes are so closely related that they intermingle and interbreed with what a frustrated ichthyologist might call an irritating and disrespectful abandon. In waters where several species gang up on the scientist or fisherman, there is no telling what sort of crossed-up creature you may yank from the weeds. Hybrids are extremely common, and though interesting, they certainly can be confusing.

But we are not yet at the end of our difficulties. I am trying to keep in mind that you, the reader, may be doing some research on your own, or making up a library of books about fishes, and for that reason I think the great Sunfish mix-up should be explained here briefly. There have been many changes in classifica-

tion over the years. Several genera of Sunfishes have been lumped together by some authors, and separated by others, so that the name you give a species depends upon what identification book you have read.

Luckily, at the present moment the biggest part of the confusion has been cleared away by modern writers who have decided to destroy several scientific groups and permanently place most of the common species in one genus. There are a few dissenters, I must warn you, for we find—as was mentioned early in the book—the Common Sunfish, for example, being placed in two different genera in the recent popular identification books of two different authorities. If you will patiently digest the following résumé, your identification-book troubles will be immeasurably helped.

Some standard books, dating over the first part of this century, set up the true Sunfishes, with but a few exceptions, in three groups, or genera: (1) *Apomotis*, example, the Green Sunfish; (2) *Eupomotis*, example, the Common Sunfish; (3) *Lepomis*, example, the Bluegill.

At a later date, and after due research, it was decided that structural differences did not warrant such meticulous separations. The species belonging to the genus *Apomotis* were segregated with those in *Lepomis*, and *Apomotis* became obsolete. We now had, with those same few exceptions, only two genera of true Sunfishes to confuse us.

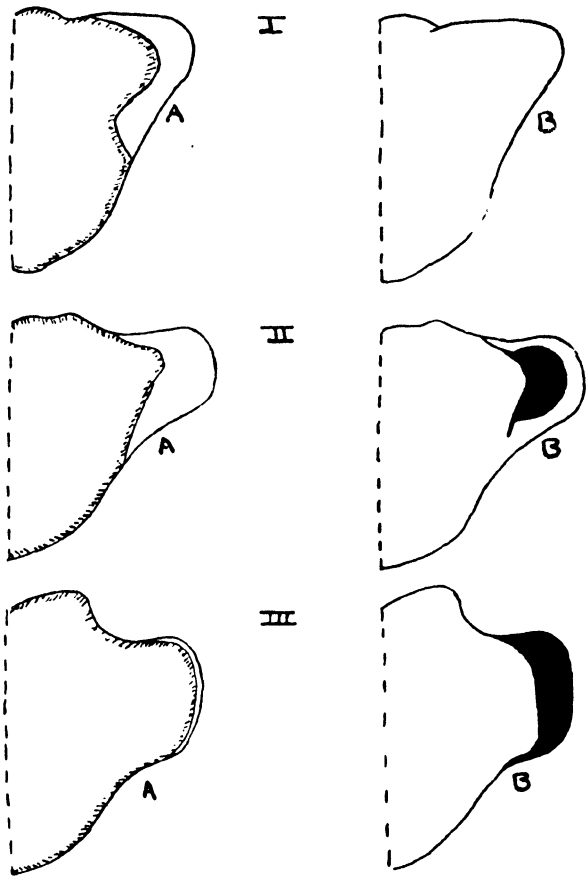
In comparatively recent times, some of the top-notch ichthyologists decided that things still were not right. The Common Sunfish and his buddies, they claimed, should be put in with the Bluegill & Co. They had good arguments to substantiate reasons for the change. And thus it came about that the genus *Eupomotis* was also outlawed. Apparently, as we have seen, certain diehards refused to go along with this change; but it may be definitely stated, on information from the best of modern authorities, that today, with but the few previously mentioned exceptions,

all of the true Sunfishes belong in the one genus, *Lepomis*. Thus, if you own, or study in the library, several references which are confusingly at odds, you may simply make a chronological adjustment by comparing the dates of copyright. If they are all of recent date, yet differ, I believe I may assure you definitely that I am right, for I have had expert advice relative to the matter.

So much to get us started on the right track. Now for identification. As I have said, we will look at only a few of the more common and representative species as we continue, and we'll approach identification in extremely general terms. If you learn to recognize these few by the simple method given, you'll then be ready to dig further if you feel like it—and if you don't, I'm sure you'll at least have a reasonably accurate knowledge of the few.

The structure to look at, when you catch a Sunfish and wish to know, with at least fair accuracy, what kind you've got, is the opercular, or ear, flap. Discounting hybrids, and variations over a great breadth of range, discounting also the sub-species and the rare species, those little badges called ear flaps will be like the convention buttons worn by politicians. You can't tell for sure whether the wearer is an *honest* Democrat or an *honest* Republican, but you can tell what group he's generally supposed to represent!

There are three kinds of ear flaps among the Sunfishes in this single modern genus, *Lepomis*. The drawing shows you the details. The first type is made up of the bony structure of the gill cover, plus a fleshy, or membraneous, portion at the tip. You don't have to take it apart to recognize it. You can usually feel it. Note now that the black opercular spot in this first type is almost entirely confined to the *bony* portion, and that the pale margin on the membrane, which does not necessarily have any red or orange in it, is not equally broad all around the black spot. It is wider on the posterior margin. The one shown is that of the Green Sunfish, *Lepomis cyanellus*. (See color plate.) As a rule,



The three important types of ear flaps exhibited by the true Sunfishes.

1. The Green Sunfish, *Lepomis cyanellus*. A–skeleton of flap, showing bony and membraneous portions. B–flap, showing how the black spot is mostly confined to the *bony* portion.

2. The Orangespot Sunfish, *Lepomis humilis*. A–skeleton of flap, showing bone and membrane. B–flap, showing how the black spot is almost entirely confined to the *membrane*.

3. The Bluegill, *Lepomis macrochirus*. A–note that the skeleton of flap shows almost no membrane. B–shows position and shape of the black flap.

he has just the merest tinge of red along the back edge of the black spot. And the fleshy part of the flap is quite stiff and not flexible.

The second kind of ear flap has a well-differentiated bony and fleshy portion, too, but the black opercular spot is almost entirely confined to the *fleshy* portion. And the pale margin is about the same width above, behind, and below the black spot. The one shown in the drawing belongs to the Orangespot Sunfish, *Lepomis humilis*. In this species, the margin around the black spot is very pale, almost white. It is often tinged with red or orange, which does not, however, form any definite colored band or spot in addition to the white. This little fellow doesn't grow very large, incidentally, not much above four inches maximum. But he is a beautiful little fish, and one you can always identify. In addition to the special type of ear flap (opercular lobe, to be high-toned about it), he has orange dots all over his body, and streaks of the same on his cheek. His dorsal and anal fin are also brightly tinged with orange.

The third kind of ear flap brings us to Mr. Blue, himself. Note first, in the drawing, its shape. This alone is a good mark of identification for the Bluegill, although in large, old specimens, the flap may be very much more elongated. Note now that this type of opercular lobe is entirely of an osseous, or bony, structure. There may be just the tiniest edging of fleshy structure at its posterior margin, for of course flesh covers the bone. If you feel this flap, you will find it quite flexible, but you will also be able to feel that it is of an osseous nature throughout.

Note now that the black spot is really not a spot at all. The entire extension of the flap is completely black. You may find in some specimens that the very outside edge has an extremely narrow and indistinct margin of paler color, perhaps gray-white, but just a pin-stripe of it. There is never a gaudy distinct edge, nor a spot of color beside or bordering the black.

If, in addition to observing the nature of the opercular flap, you will take the trouble to measure the longest spines of the dorsal fin of the Bluegill, you will discover that they are as long, or longer, than the snout and eye combined. The Bluegill has longer dorsal spines, as a general rule, than the other Sunfishes. Note also that he has a black, or dark, blotch shading the posterior rays of his dorsal fin. If you study his opercular flap, and add to it these other general characteristics, I don't believe you'll have any trouble identifying him.

Now then, I am not going to tell you that all Sunfishes may be identified by ear flaps alone. But if you will get in the habit of observing these structures closely, noting: (1) shape, (2) structure, (3) where the black spot is located in relation to structure, (4) the dimensions of the pale margin (if any) above, behind, and below the black spot, (5) location, color, and shape of any bright-hued spot or border near the black spot, and (6) whether or not the flap, be it bony or fleshy at the margin, is flexible—if you will note these items about ear flaps, you'll come close to reasonably accurate amateur identification of any of the more common Sunfishes. If you get stuck, of course you may have to dig deeper, but for general use, for fishermen with but casual interest in the matter, you can't beat the ear-flap method. It will clear away ninety per cent of your confusion in a very simple manner.

There is just one more point that needs a bit of explanation about Bluegills versus identification books. So far we have not mentioned Mr. Blue's scientific name. The one recognized today, as the last word in a long series of arguments about it, is *Lepomis macrochirus*. The one you will see used in most older references is *Lepomis pallidus*, but that one is outdated, as also are *Helioperca incisor* and *Helioperca macrochira*. So don't let differing volumes confuse you.

And now, let's not forget that the amazing Mr. Blue has a

pretty tough little cousin who's been a friend of most of us since we were kids. We must not leave the Sunfishes, surely, without paying due tribute to the "Punkinseed," or Common Sunfish—and our respects to a few other species, also.

THE "PUNKINSEED"

We could be a great deal more correct about it by spelling the word "*Pump*-kin-seed," but we should thereby detract appreciably from the romantic side of the matter. No one who caught Sunfish as a kid and called them by their country name ever spoke so precisely, and if he did I doubt that he had much fun fishing. "Punkin" is far more easily said than "Pumpkin." It even sounds better, and should definitely come into accepted usage in regard to both fish and pie!

In my opinion we do not have to look to rare species, or for that matter to search at all, in a contest to see who can turn up the most beautiful member of our tribe of freshwater fishes. I'm speaking, of course, purely from a standpoint of riotous color. In such a contest, that extremely abundant buddy of ours, the Common Sunfish, would surely turn up in at least nine out of every ten entries!

There are, it is true, many other gaudy Sunfishes; but none of them outdoes this little rainbow-hued gamester. The fact of his abundance, added to his great range, makes him a fit delegate to this convention of the Sunfishes. He is typical, perhaps more so than the Bluegill, for Mr. Blue is in certain respects a highly specialized sport fish, whereas the Common Sunfish sums up in conservative fashion the more or less general characteristics of the entire group. I have chosen to give some space to him here for the specific purpose of coming to his defense in certain quarters, and also to point out several ways in which he may differ to some extent from the Bluegill in his fisherman relationships.

You may remember that I refused, in the opening chapters of this book, to give up the little old "Punkinseed" entirely to the kids. There has been altogether too much made of this "boy's fish" business, where the Common Sunfish is concerned. We come to underestimate him as a game fish in many instances purely because of this association, which has been planted in our thoughts by scribes with human-interest propaganda foremost in their minds. I am perfectly willing, as previously stated, to share this brilliant little fellow with any kid in the land, but I do not admit it should follow that he is worthy only of amateur attention.

If you have ever had the pleasure of fishing for, and catching, really big Sunfish, you will already be on my bandwagon. It so happens that I have been blessed rather regularly with such opportunity, and I cannot speak too enthusiastically in praise of the "Punkinseed." There seems also to be a notion extant that the Common Sunfish never grows as large as the Bluegill. Well, from a scientific standpoint there may be some basis for this belief. I don't know definitely. But I do think there is a better way to put it.

For instance, I have taken Bluegills larger by far than any Sunfish I ever caught—but they were by no means the average. In fact, I recall an eleven-inch Bluegill which gave me a real tussle one summer afternoon. I must admit, however, that he made the rest of the string look pretty puny. On the other hand, several Sunfish on that string also put the average of my Bluegills to shame. In other words, it does not follow, just because the *record* Bluegill allegedly goes over two pounds, that the *average* Bluegill will be as large.

I cannot recall a single instance of catching the Common Sunfish and the Bluegill out of the same waters, or during the same session of fishing, when the general run of Bluegills greatly outweighed the Sunfish. And I do recall one particular day when I

made it a point to compare the two. They were hitting about even—the sizes ran fifty-fifty. All specimens were large. On that occasion I would definitely say that the large Sunfish gave a better account of themselves than the Bluegills.

Now this may have been because the Sunfish were older, stronger specimens. Perhaps they had reached *maximum* growth, health, and strength, while the Bluegills still had some growing to do. At any rate, both my partner and I remarked when we came together again at the end of the afternoon, after having fished from separate boats, that the Sunfish we had taken were the better battlers.

And what fish they were! Somehow it is always a little startling to bring one of those big Sunfish into the boat. These I can still see in every detail. The breasts were the most dazzling yellow—not dull orange, but so bright you felt as though they made you blink to look at 'em. The border of the ear flap was a daub of crimson, and the wavy blue markings about the cheek stood out in bold relief. The yellow and green of the scales, shading upwards into darker color toward the back, set off the more brilliant colors until it was difficult to believe that such a creature could exist outside of some artist's imagination.

In addition, these specimens had grown to such size that every detail of their great depth was highly accentuated. They seemed hardly to have heads at all. They were all body. And in particular, the extremely small mouth was all the more noticeable.

That small mouth is something to keep in mind when fishing for Sunfish. Obviously, they cannot take at one gulp even the quantity of food possible for a Bluegill to cope with. This would seem to indicate logically that they may feed in a fashion perhaps a bit more on the sedentary side than does the Bluegill. I think it is generally conceded that the Sunfish does not take a fly, dry or wet, with quite the abandon common to the Bluegill. Of course, some large specimens may be willing to try anything;

but my experience tends to point up the fact that the Common Sunfish is not up to the Bluegill in regard to *variety* of method possible when fishing.

This difference, it is true, may be slight. I have taken Sunfish on flies, both wet and dry, on spinners, crickets, grasshoppers, grubs, etc. However, I have proved to my own satisfaction a number of times that they will take angleworms and small larvae better than other baits.

Last season a friend and I decided to test this theory. We knew where it should be possible to catch both Bluegills and Sunfish of large caliber at the same spot. With both of us fishing from the same boat, I rigged with an artificial spider, while my partner baited with a small angleworm. We both began taking fish. Out of ten fish landed for me, all were Bluegills. Of ten landed for him, six were large Sunfish, four Bluegills—and this, remember, while we were fishing with our lines not over ten feet apart at any given moment.

We seemed to be proving two things: first, that Bluegills were more numerous than the Sunfish; and secondly, that the Sunfish had a greater hankering for worms than for artificial spiders. You will note that I say we *seemed* to be proving this. Could it be only that the Sunfish he was taking were older and wiser, and not foolish enough to accept my spider? We would see.

I took off the artificial spider, changed to live crickets, and then, presently, to live grasshoppers. We were, meanwhile, releasing all of the fish. My ratio now ran four Bluegills and one Sunfish, while my partner, still fishing with worms, took just the opposite—four Sunfish and one Bluegill. When I finally changed to worms, to complete our little experiment, I began comparing with his ratio—that is, more Sunfish than Bluegills.

Whether or not we proved anything, I don't know. There may have been some other reason, but I chose to believe that the Sunfish liked the worm better because it seemed to them a more

natural food. Also, in most instances, they were inclined to nibble at the bait, rather than to strike at it. In fact, at times, even while the Bluegills were smacking anything and everything with gusto, we would believe a small Bluegill was bothering us, only to hook it and have a really exciting tangle on our hands, caused by an extra-special "Punkinseed."

You will notice that in most large specimens of Sunfish, when compared to Bluegills of like size, the mid-section of the Sunfish bodies seems to be thicker and more muscular. This, no doubt, accounts for their tough fight; and it may be, too, that the head, being so compressed into the body muscles, may give them a better leverage for their pull.

I think it may be interesting to mention, in relation to all of this, that the mouth structure of the Common Sunfish tends to bear out my assumptions. A great share of this little fellow's diet, in many environments, is composed of small mollusks, which must be crushed—and the Common Sunfish is the best fitted, in mouth structure, of any of our Sunfishes for this occupation. In specimens examined by the Illinois Natural History Survey, it was discovered that nearly *half* of all food was composed of these small mollusks. These specimens had taken no minnows at all, the remainder of the food being made up of some insects and some tiny crustaceans.

When insects are mentioned in this manner, it does not necessarily mean *surface* insects. Ichthyologists, when making stomach examinations, class immature aquatic insect forms, such as mosquito larvae, May-fly and dragon-fly nymphs, as insect food.

Now look at the findings in the case of Bluegills. Nearly half of *their* food was composed of *insect material*, a very moderate amount of mollusks, a slight percentage of fishes, and some crustaceans. Do you see now how a deeper study and semi-scientific comparison of our fishes may lead us into more cunning methods of attaching them to our hooks?

For the most part, the Bluegill and the Common Sunfish may be discussed as one, except for these few observations which I have felt might be valuable to set down here. The ranges of the two are almost identical, the Sunfish having been stocked outside its native range (Maine to Minnesota and south to Florida) until all but a couple of states report them thriving.

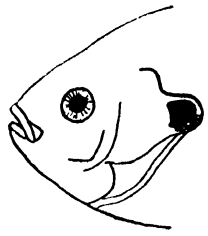
Both of the species spawn in like manner during spring and summer. It is an interesting sight to watch them at their nest-building and spawning. The male hollows out a nest in the weedy shallows, fanning out a depression with his tail. Oftentimes you may see dozens of these curious nests, side by side, along the shore of a lake.

When the nest is ready, he hunts himself a wife, and herds her into the nest. Sometimes, after the egg laying is accomplished, he will chase his wife away. He stays, however, doggedly guarding the eggs; and, although he may be frightened away temporarily from the eggs prior to the hatching, once the little fish are hatched, the size of his opponent matters little. He will fight to the death to protect his youngsters, until they are able to go out on their own.

Perhaps it may be said that the Sunfish is fond of slow rivers and muddy ponds to a greater degree than is the Bluegill, but as a rule these two little fellows get along uncommonly well together. It is, in fact, not unusual to find lakes in which they have interbred until it is quite impossible to tell which is which, the hybrid population being, indeed, as much Bluegill as Sunfish.

It is a fairly simple matter to distinguish him from his relatives, if you just keep a few points in mind. He is very deep-bodied, and his body is definitely of a rounded general shape. As a matter of fact, his scientific name tells you that. It is *Lepomis gibbosus* (in the older books *Eupomotis gibbosus*) and, if you will check with Webster, you'll discover that the word "gibbous" means regularly rounded, or swollen.

Now examine the drawing of his head, and note the shape of his opercular flap. The bone of this flap is stiff, and there is not any elongated posterior portion made up of membrane. The membrane forms merely a small border. Note that there is no entire border of color, but an oblong red or orange *spot* rather below and behind the black opercular spot.



Head of Common Sunfish, *Lepomis gibbosus*, showing shape and coloring of opercular flap. The shaded area beneath the black opercular spot indicates the shape and size, in general, of the red oblong spot.

To make it easier, it may be said that among the more common and important Sunfishes, about the only ones you might confuse with the Common Sunfish are the Shellcrackers. There are several sub-species of these, most of them, generally speaking, of a predominant southern distribution, although they have been introduced elsewhere. They are Sunfishes of good size, and are much fished, particularly in the warm rivers and bayous of the South. We'll take a look at one representative species right here, so as to compare it with the Common Sunfish.

One of the best-known species is the Western Shellcracker, *Lepomis microlophus*,* sometimes called the Red-Eared Sunfish. He is a large, and handsome Sunfish. In Florida, they'll tell you many tall tales of his size. The name "Shellcracker" comes

* The Shellcrackers also were once in the genus *Eupomotis*, and thus will still be so listed in older references.



PHOTO BY CLEMENT CROUCH

The Sunfish a "boy's fish"? Ha! He'll put a bend in a light rod that'll make you plead with the kids to share him!



PHOTO BY AUTHOR

No gourmet's dream can top the prospect of sweet-fleshed Yellow Perch, fresh from the water, fried over an open fire!

from his habit of feeding on small crustaceans, as does the Pumpkinseed.

The way to distinguish between the Western Shellcracker and the Common Sunfish is to note first the color on the opercular flap. The Shellcracker has a broad scarlet *border*, whereas, remember, the Pumpkinseed has only a *spot*. If still doubtful, note that the Pumpkinseed has distinct wavy blue lines on the cheek. The Shellcracker may have a suggestion of them, but they are not conspicuous. Now look at the pectoral fins. The Common Sunfish has pectorals which reach *scarcely to the front of his anal fin*. The Shellcracker's pectorals reach to or beyond the *middle of his anal fin*.

And now, before we leave the Sunfishes, let us take a brief look at several other much-fished and typical species.

VARIOUS AND SUNNY

Let me begin by urging you strongly to make a deeper general study of the Sunfishes than we will have time for here. Their numerous species, their hybrid forms, the color variations among them as they progress from region to region in their native ranges and the ranges to which they have been introduced—all of this can become an extremely interesting hobby, serving to brighten many a day outdoors and many an evening's argument in camp.

As previously mentioned, the Sunfish family, *Centrarchidae*, is one of our most important families of freshwater fishes. This is, of course, particularly true with reference to the sportsman, for the family, remember, embraces not only the true Sunfishes, but the Large and Smallmouth Black Basses, the Rock Bass, the Warmouth Bass, the Black Crappie, and the White Crappie, as well.

If you are lucky enough to fish in various parts of the country, you will often be rather surprised to discover that a Sunfish

species of which you never heard is extremely important in a local way. And residents of that section will be amazed that everyone else in the country doesn't know about their particular pet.

The methods of fishing, of course, will be so much alike that your knowledge will apply as well in a strange district as at home. But you will, as you travel and fish, constantly learn new quirks, new types of bait—killers in some restricted section. And you'll catch Sunfishes, too, which will make you furrow your brow when you attempt to compare them to the descriptions in this book, or the keys in the more technical and learned volumes. You won't know whether to be angry at the scientists for not giving you more complete and detailed information, or irritated at the fish for being so elusive when it comes to tying them down to special categories.

But remember, the scientists have had their share of troubles, too. Garman's Sunfish poses a typical example. This unusually beautiful little fish was first described by Stephen A. Forbes, Chief of the Illinois Natural History Survey Division, in about 1885. He took some specimens from the Little Fox River, and from the Wabash River, which very closely resembled the Scarlet Sunfish, *Lepomis miniatus*, whose known range was in the deep South, along the Gulf Coast in streams from Texas to Florida. Dr. Forbes' specimens were supposedly far from their native home. They also had certain characteristics which appeared to set them apart as a distinct species, notably that the Scarlet Sunfish had rows of red spots along its sides, while this new Sunfish exhibited spots of bronze. It was later decided that the fish described as *Lepomis garmani*, or Garman's Sunfish, was in reality not distinct at all from the fish then known as the Scarlet Sunfish. It was but a color variation.

Perhaps this example helps us further to see why a group of fish books of various vintages can be so very confusing. Indeed,

the little Sunfishes have slyly avoided strict classifications and identifications for many years. New types are always turning up, and new differences, or likenesses, are always being discovered.

Certainly I have neither the knowledge nor the inclination to enter into whatever arguments there may be among the professional ichthyologists in regard to the proper classification of the Sunfishes, but I should be immensely pleased if I could arouse the interest of the reader in equipping himself to do so.

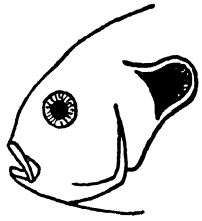
Let's see, now—we've already talked about the Bluegill, *Lepomis macrochirus*, the Common Sunfish, *Lepomis gibbosus*, the Western Shellcracker, *Lepomis microlophus*. We also discussed, in talking about opercular flaps, the Orangespot Sunfish, *Lepomis humilis*, and the Green Sunfish, *Lepomis cyanellus*. Perhaps we should add a few more words about these last two. The Orangespot Sunfish is a beautiful little fellow, but as a rule he's too small to gain much popularity as a Game Fish. I think, however, that the Green Sunfish rates a bit of a plug.

The color plate of him has been included because he is one of the most common of the true Sunfishes. Very seldom is he found in large lakes and streams. He is a sprightly little inhabitant of small, clear creeks and ponds, where he grows usually to a maximum length of only four to seven inches. I have been interested in noting how often this Sunfish turns up in cold, clear northern Trout streams. Numerous times they have reprimanded me for sneaking around the bend and using garden hackle on Trout, when I was supposed to be fly-fishing, by taking a solid hold in the more quiet pools. Sometimes a fairly large specimen is taken, but even the small ones lay it on mightily, if we consider their diminutive stature, in a brisk, brief struggle.

Although the Green Sunfish is often passed up because of his small size, like any and all Sunfishes, he is often important to *somebody*. In many areas where no waters occur except small streams and ponds, these fish are eagerly sought as Panfish—which

helps to prove my point earlier in the book that when you are fishing for small fish, and *catching* them, you are not disappointed in them. It is only by comparison with some larger species that we come to push the little representatives into the background.

It is a very good idea to get that opercular spot business firmly in mind, as between the Green Sunfish and the Bluegill. By convincing yourself that the black spot is only on the hard, bony



Head of the Long-Eared Sunfish, *Lepomis megalotis.* Note large size of the opercular flap, and its shape. Shaded area indicates the red (or blue) border around the black opercular spot.

portion of the opercle, you may save yourself from waiting for the Green Sunfish you planted to grow into Bluegills!

Now, then, to get on to other Sunfishes, if we acquaint ourselves slightly with only a few additional species, we'll have the Sunfish problem, for our purposes, pretty well licked. There are, in particular, two extremely important species which we should recognize, and angle after. These are the Long-Eared Sunfish, and the Red-Breasted Bream.

The Long-Eared Sunfish, *Lepomis megalotis,* sometimes called "Tobacco-box," is well known in the Great Lakes region of Michigan and Minnesota, on up into Canada, and south to Florida and the Gulf States. Kentucky fishermen, in particular, find the Long-Ear in abundance. This fellow is a lover of clear streams, especially large ones. On the average, he grows upwards of eight

inches long, and, although he is rather variable in form and color, he is one of our most beautiful and brilliant Sunfishes.

In the more gaudy specimens, bright blue and orange and yellow combine to dazzle the eye. Even the dorsal fin in some specimens carries out the same color scheme. Many wavy lines marble his upper body, spots are sprinkled here and there, and the iris of his eye is red. From his common name you would guess, of



Head of the Red-Breasted Bream, or Yellowbreast Sunfish, *Lepomis auritus*. Note the very long, narrow, all-black opercular flap. Its characteristic shape will always quickly identify the owner.

course, that his opercular flap is conspicuous. The drawing will show you its large size, and its shape. The black spot covers most of it, but around the margin is a narrow border which may be either blue or red. If you get a picture of that ear flap in your mind, you'll never mistake this dapper lad. His food is made up mostly of insects—which, to the fly fisherman, should suggest fishing procedure without further talk.

The Red-Breasted Bream, *Lepomis auritus*, known variously as the Yellowbreast Sunfish, Yellow-belly, Leather-ear, and so on, is an excellent light-tackle fish. He'll go up to a pound in weight, is predominantly a stream fish, and, as he feeds on crustaceans and small fishes as well as insects, procedure may be varied with him. He is the Easterner's favorite Sunfish, for he reaches his greatest abundance east of the Alleghenies at a point below New York.

He is also found, however, as far north as Maine, west to about Minnesota, and south to the Gulf Coast.

This gent, too, is a very beautiful fish, olive in color, with a yellow to orange-red belly, often with reddish spots on bluish sides, and with yellow or orange showing in his vertical fins. You'll never go wrong on identification with him, if you follow the ear-flap method. His is extremely long, in fact longer in adult specimens than the ear flap of any other Sunfish. It is also very narrow, and usually entirely black, although it may have a pale lower border. The drawing shows you its characteristic shape and size. Usually there are traces of blue lines showing on the gill cover at the base of the flap. And often, too, these blue blotches are distinct about the snout and cheek. The Red-Breast is a *real* fisherman's fish, make no mistake about it.

Perhaps we should give a brief hearing to two smaller species. One is the little Round Sunfish, or Flier, *Centrarchus macropterus*, handsome and sporty, even though diminutive. His average maximum growth is about five or six inches. He is greenish in color, with interrupted rows of dark brown spots, and in general is considered a Southerner, a lover of ponds and streams.

The other is the Mud Sunfish, *Acantharchus pomotis*, native to the middle Atlantic Coast, particularly in sluggish lowland streams. This little fellow is very dark greenish in color, with darker bands indistinctly running lengthwise down his sides. He grows to a length of about six inches.

There are, of course, a number of other Sunfishes in addition to those already mentioned, but most of them are either rare, or very small. However, there is one other species with which some of us are already familiar, and which the rest of us should at least know about. This is the Sacramento Perch.

The Sacramento Perch, *Archoplites interruptus*, is the West Coast representative, natively, of our Sunfishes. Sometimes it gets

to be very nearly two feet long, and is high on the Westerner's list of game-and-eating fishes.

This fellow is particularly interesting because of the fact that he is the only member of the *Centrarchidae* which is native west of the Rockies. We usually think of great mountain chains as barriers to the natural enlargements of the ranges of our fishes. Oddly, it is not the mountains specifically which form the barriers, but the type of water systems which are found in these high altitudes. A fish could make the trip across the Rockies all right, if he could but adapt himself to the type of habitat in which it would be necessary for him to live.

From a study of fossils it is thought that the Sacramento Perch is a representative of an ancient race. This race, presumably, extended its range to the West Coast prior to the formation of the Rockies. It is now confined to the Sacramento and San Joaquin River Basins. Its average size is around eight inches to a foot. The gill cover does not have an elongated flap, but is much like that of the Rock Bass, sharp-pointed, with a black spot. Color of the fish ranges from black to silver, with the sides blotched. Some yellow often shows in the fins. Oddly, the posterior margin of the scales is saw-toothed, a good tag for identification. Its food is similar to that of the other Sunfishes.

This short listing will give you at least an inkling as to the family background of Mr. Blue and his country cousin, the "Pumkinseed," without too great confusion as to specific identifications. It is hoped that the next time you catch a Sunfish, you will have been prodded hereby into curiosity regarding the exact *kind* of Sunfish it is. Certainly there's a good chance of its not being what you think it is.

I have an acquaintance who did not realize, some years ago, that there were different species of Sunfish. Today he has a collection of specimens which he mounted himself. They were

simply picked up here and there while fishing, and he has proudly become somewhat of a local authority on the Sunfish family.

Incidentally, that's a fine hobby idea. Mounted fishes, even the little fellows, collected and tagged and touched up with their true colors, then hung on the wall of your den, will get a lot of attention from your angle-minded friends. The practice of such a hobby is an easy way to become a fish expert, too, and you couldn't start with better subjects than the Sunfishes—not to mention the fun to be had by collecting your specimens with light tackle!



The Eatin'est Fish!

I COULD NOT possibly describe for you the eagerness with which my brother and I awaited that evening when we had been promised a trip to North Lake. We were both of early grade-school age, and, though that mysterious body of water called North Lake was but a few miles distant, neither of us had ever been there. It was, they said, "getting built up something awful," meaning that cottages were springing up all around it, city people swarming in—there was even a dance hall, a most evil place, 'twas rumored, where patrons raced about in time to jazz music and drank soft drinks (a habit leading eventually to acute alcoholism).

Of course, we were not going to see any of this "evil" side of the growing resort called North Lake. We had been invited to spend an evening at the Tompkins' cottage. They kept the meat

market in our small village, and were, it was said, doing very well, having a cottage at the lake and all, and neither of them much past forty!

My brother and I were not interested in the dance hall, nor the soft drinks. We took it for granted that such things were far outside the realm of our existence. What we talked of, as we got up the cows or worked in the garden during the days leading up to the trip, was the fishing at North Lake. Mister Richardson had caught a flour sack full of Sunfish and Bluegills as big as oatmeal bowls over there last week. Mister Osborn caught a Bass that weighed four pounds. Mister Lane saw a man getting out of his boat, with a string of fish "that long!"

Then suddenly the evening was upon us and we were forced to dress in our Sunday best, and before we knew it we were at the cottage, already fretting about how we'd keep clean, fishing in our good clothes. We were sitting quietly in a corner of the Tompkins' cottage, restlessly moving our feet and whispering to each other, as the older folks talked endlessly of small matters—who had died, who had been born, who married whom, the state of the wheat, corn, and potato crops, and hadn't it been the oddest summer—while darkness closed in so steadily and obviously that you'd have thought anybody could have seen, and the moths began to dance on the porch screen, and nobody, *nobody*, mentioned a single word about going out in the rowboat to fish.

It would, of course, have been considered extremely poor bringing-up had we had the temerity to ask about such possibilities. So we sat, and sat, no doubt subconsciously entranced by the amazing evidence that older folks could be so starkly blind to the things kids want so desperately to do.

At last Mister Tompkins said casually, "Would you folks like to go out in the boat a little while? It's such a nice evening. We could fish a bit, if you'd like. Perch should be biting."

We held our breath, hopes soaring—and then we heard the

pronouncement of doom. One woman said, "Oh, now, George, don't start that! It's too dangerous, what with the children, out there in the dark and all. Think how awful you'd feel if somebody got drowned."

Well—that was that. And just *think* of it, he had said Perch! Neither of us had ever caught a Perch, or for that matter even *seen* one. Our stretch of the Flint had contained none, and after we had moved and grown a little so that we had come to know some small bit about ponds and streams close by our new home, it had been our misfortune never to drop our hooks into water where Perch were known.

Missus Tompkins said in her jolly way, "Well, then, if you're not going fishing, we'll do the next best thing. The boys (that was us) are hungry, I'll bet. We'll *eat* some Perch."

She produced a platter of the most delicious-looking cold fried fish you ever saw. The sight of it assisted us in swallowing the growing lumps in our throats. We were hungry, of course; and for the moment we put aside our bitter disappointment, soothed by the knowledge that we were actually going to see Perch, and taste them.

I remember that I took a middle-sized one from the platter, wanting the larger one next to it, but trying hard to remember my manners. I laid it upon the little plate she handed me, which contained green onions and bread and butter, and I sat and stared at it for a long time, saying over and over in my mind the word "Perch," getting the sound and the feel of it in relation to the crisp-fried brown lump of fish upon the plate.

I watched to see how the older folks ate theirs. Some picked away with a fork; but Mister Tompkins said, "Take it right up in your fingers, son. There aren't any bones in it. I took them out."

I did as he said, looking first at my mother to see if she approved, and pondering meanwhile how he could possibly have

taken the bones out of a fish. From then on until every sweet, white, flaky morsel was gone, I lived a new and wonderful experience, for I made up in my mind a picture of what the fish had looked like, and saw myself catching them with simply amazing speed; and lugging home such a great string of them that I had to let most of it drag in the sand of our road!

How odd it is—I have thought so many times since—that my introduction to the Yellow Perch should have been gastronomic, rather than at the end of a fishing line. For when the Yellow Perch is spoken of, whether by the angler or the uninitiated, the talk is first of his qualities as an eating fish, and then later comes the discussion of his references as a catching fish.

In the northern latitudes particularly, the Yellow Perch is a prime favorite. One of his best table attributes is the fact that he seems to have no fishy taste. The meat is delicate, yet flaky, very white and sweet. Even those who don't know the first thing about fishing or fish from the hobby point of view, can pick out a Perch on the table. And they'll tell you he's one finny fellow of which they never tire.

Thus the Yellow Perch may be used as a perfect example of our fishing philosophy. To wit—there is about each of our fishes some one characteristic which sets it apart from the others, and thereby lends it specific value to us as fishermen. For instance, we cannot truthfully say that the Yellow Perch is a real battler; but the facts of his abundance, his schooling habits, his daring in attacking a bait or lure, and his extremely high-class eating qualities greatly overshadow whatever he may lack in the way of dashing tactics at the end of your line.

This is not to say, of course, that the Perch turns up his fins at the prick of the hook and willingly sacrifices himself on the altar of good eating. He resists for all he is worth, and catching him with light tackle is definitely good sport. He is a swift swimmer, a powerful and active little fellow. But his battle seems to

lack direction. There is nothing crafty about it. He has no special tricks, no form or pattern of warfare which can be counted upon. He simply holds back, racing this way and that, in the most stubborn manner of which he is capable.

There is probably good reason for such t· ·ics. The Perch lacks the fight potential of the Sunfish tribe principally because of his build. His body form cheats him of the possibilities which are natural to the deep-bodied fishes. In addition, he is so thoroughly gregarious in his habits, and so determined in his desire for open spaces of water, very often free of logs and hiding places, that he appears to have a high disregard for the cunning which other fishes inherit. It seems as though he is constantly pointing out to himself the fact that there are so many of him —what can it matter if a few are caught here and there? With a shrug of his high-humped back, he allows himself to be caught by the millions, depending, no doubt, upon his bright-colored brethren to continue his species by their copious spawning.

It is this spawning which furnishes the Perch enthusiast both with a great volume of fish for the continuous future, and also with a rare opportunity to catch fish as fast as he can drop his hook into the water. In many places, Yellow Perch may be legally taken during the spawning season. The fact that the species is so amazingly prolific makes this a legitimate practice, for although hundreds of thousands of fish may be caught during the spawning runs, there seems to be little or no ill effect upon the Perch population. Once established, Perch easily maintain themselves without artificial propagation.

Those of us who live in the vicinity of the Great Lakes, especially Erie, Huron, and Michigan, have perhaps the most enviable location in the entire world as far as the Yellow Perch is concerned. In Michigan we watch the calendar, itching for that last Saturday in April, when the Trout season will open. But we watch for that date as something specific in relation to the time

element, and when it comes, we do not go after Trout with our techniques dulled from disuse since last season. Oh, no! We have already had ourselves a riotous "go" at the Perch fishing, which we watched for not by exact date, but by weather.

Along about the first of April, the enthusiasts begin their talk and their weather guessing. The Great Lakes form an immense reservoir for millions and millions of Perch. As long as twenty years ago, the commercial catch from the Great Lakes had risen to ten million pounds a year! Nowhere in the world is there a greater concentration area. The shores along the Big Lakes are dotted with establishments advertising fresh Perch, live or filleted, Perch bait, boats to rent for Perch fishing, etc. Commercial fishermen make their living, in many areas, almost entirely from their catches of Yellow Perch. And the sort of weather we get during the first two weeks in April fairly well determines how and when the run is going to start.

When the water has reached 45 or 50 degrees, the Perch begin their mad rush for the small streams emptying into the Big Lakes. Literally by the millions they converge upon the mouths of these streams, usually about mid-April. Instantly the word spreads. There is a mad scramble to get to the small streams and the dredge cuts near the shore. Women and children join in the great and hilarious war upon the Yellow Perch. Every conceivable sort of tackle turns up; hundreds of fishermen, and women, line the bridges, the highways, the cut banks—and Perch by the thousands plop into pails, as the crowds in holiday mood haul them up two and three at a time on dropper hooks.

This condition occurs for the most part on waters of the Great Lakes only, the inland lakes remaining closed until the other fishing seasons open. But the windup for the big pitch of the fishing season begins in all northern latitudes, as a rule, with Yellow Perch fishing. There is no doubt but that this bright-hued little gamester is one of our most abundant fishes, possibly

the most willing of any of our species to take the hook, and without question one of the most important food fishes of the Middle West.

As it is the abundance of the Perch, brought about by his prolific nature, which makes good Perch fishing nearly always possible, often when no other fishing exists, we should perhaps have a look at his odd spawning habits. The females are usually larger than the males. During spawning season you may see hundreds of Perch gathered along the gravel bars, or in the small, sluggish streams, or near the shores of small lakes. Like a belle at a ball, the female swims along, followed by numerous gaudy males, whose fins have assumed a bright red or orange hue for this special occasion.

The "Queen of the Gravel Bar," also dressed gaudily in her new spring spawning colors, begins to deposit her eggs. The males battle each other for the right to fertilize the eggs, often creating a great commotion in the water, until it is at times roily with their milt. If, at this time, you were to row your boat over the fish, or wade quietly near them, they would appear fearless in your presence, so great is their concentration upon the business at hand.

The female deposits her eggs in a single mass, which then begins to flow out slowly into ribbon-like folds containing upwards of forty thousand eggs. Though the eggs are comparatively small, they quickly absorb water after fertilization, until you would be amazed, looking at the mass of them, that such a huge amount could have been deposited by one small female fish. There are records of these ribbons of eggs being as much as seven feet long and four inches in width. Nearly always, the weight of such strings, after fertilization, will be far greater than the fish which deposited them. The eggs hatch quickly, which helps to offset spawn destruction by natural causes.

Thus does the eatin'est fish of our waters assure its species of

continuation, and likewise assure the fisherman of good future sport and gastronomic pleasure. There is but one hitch, at times, in the whole pleasant proceeding. In certain areas, Perch become so abundant that they are looked upon as something of a nuisance by those who angle for other fishes. In addition, they bring disappointment to the Perch fishermen by stunting themselves through over-population. In Minnesota and Wisconsin, for example, you will hear the Yellow Perch spoken of as "bait stealers," or you will be told that a certain lake is "Perch bound"—that is to say, so filled with Perch that no other fish is able to thrive in it.

Of course, we fishermen, as a group, should be rather happy with the situation, even though it has its drawbacks, for we can be reasonably certain of having Perch fishing to fill any and all future needs, simply because our little yellow-bellied friend is so determined to propagate himself in numbers. His lack of temperament regarding his abode is also a worthwhile attribute. Although the Perch might be considered as originally a northern and eastern fish (his native habitat ran down only to North Carolina), he has been so pounced upon by State and Federal authorities in past years, because of the ease with which he may be stocked, that now few states remain in which he has not found some kind of home.

That home may be formed of water either of high temperature or low. It may be rock-strewn or weed-filled, deep or shallow. The eatin'est fish of them all doesn't seem to care. He will thrive in any except the coldest of Trout waters, even finding contentment in the muddy southern pond. One sure test of his immunity to his surroundings was his introduction along the West Coast. Here he did well in lakes and ponds which had been thought of for years as habitable only by Trout.

Although Perch may sometimes be found in streams, they are definitely not a stream fish. Large, slow streams make livable hab-

itats, also the coves and bayous of faster currents. Even brackish waters along the eastern seaboard will at times make a haven for Yellow Perch, as long as the current is not too swift. He is seldom found in small streams. The ponds and lakes are his first choice.

Some of the early stocking done with Perch turned out later to have been a great mistake. Its lessons should be kept in mind by the amateur fish culturist. The little fellow is a voracious feeder, almost wholly carnivorous and predaceous, and he habitually covers an extremely wide area in search of his food. For the stocking of private ponds, the Yellow Perch is an excellent bet, *if* you want Perch only. In waters where other species abound, it is a dangerous proceeding to stock Perch without professional advice. The Perch will not only out-propagate the others, as a rule, but may gobble them up to boot.

If, however, Perch are stocked in private waters, and forage minnows of a suitable kind are also introduced, the balance should work out favorably. But where other Game Fishes are in direct competition with him for living space, the Perch is not bashful about eating both spawn and fry. True, he may turn cannibal and feast off his own family, but usually there's trouble when the Perch have swallowed every other kind of fry in sight, yet have stunted themselves by competing with their own kind for food. One Perch sizes up another, finds his prey about equal to himself in size and strength. Thus, when cannibalism would be most welcome as a check on over-propagation, lo and behold, adult sizes run so nearly alike that no one Perch can possibly eat his brother!

Now then, it may seem to you that this discussion leans toward the derogatory. On the contrary, the Perch has been one of my best and most intimate friends during past years, and a fish for whom I maintain a great amount of enthusiasm. However, facts are facts, and we shall always find that a sound basic knowledge

of our subjects will assist us in filling our limits. How, then, since we have had a look at the home life of the Perch, shall we set about fishing him for the best in sport and numbers? And when?

I have purposely mentioned the spring Perch runs along the Great Lakes for several reasons. First of all, there is no doubt that spring is the best time to fish for Perch. Although they will bite readily throughout the entire year—ice-fishing for Perch is immensely popular for this reason—they are particularly greedy during the spring. And for a very obvious reason. In comparison with their habitat during the rest of the year, their spawning areas are small, yet filled with such amazing concentrations of fish that the competition for food is keen.

The next reason for plugging spring Perch fishing is that in most places, because of their abundance and prolific natures, Perch may be fished earlier than other species. Thus we may lend more variety to our long fishing season by getting our fill of Perch fishing when it is at its best, before going on to give attention to the high points of the other open seasons. In addition, Perch are most active during the colder weather just after the ice goes out, while inclined to become lackadaisical in their manner of striking during midsummer.

Perhaps the most important reason for giving special attention to the Perch in spring is that, as the season progresses, a great many parasites seem to find him quite as appetizing as do humans. During the summer it is extremely common to find Yellow Perch heavily parasited in many lakes and ponds. Various species of worms form cysts in the muscle and beneath the skin. Of course, these parasites are not in the least harmful to man. But the fact of their existence, and their taste for Perch, has caused the little fellow no end of embarrassment in numerous areas. Among many fishermen, especially in areas where he is most abundant, he has become unpopular for that very reason. As stated, there is absolutely nothing harmful about them, as far as we fishermen are

concerned, but the idea of parasited fish is most distasteful to many persons. The answer, obviously, is spring fishing. Seldom, if ever, will you find Perch taken in April and May so infested, particularly in those portions of their range where they are most abundant.

One writer has said that the chief claim of the Yellow Perch to membership in the exclusive association of Game Fishes is that it may be caught by anybody. Well, now, this statement is undoubtedly true. I cannot conceive of a fisherman who, no matter how inexpert, would be unable to hook a Perch or two in spite of himself. On the other hand, there must surely be certain ways of taking Perch which are better than others, and for that reason, we might begin our appraisal of the catchin'est methods for the eatin'est fish by critically examining some facts which have been written about him—and then by examining his stomach.

Remember that we decided some pages back to listen with respect and attention to the fishing theories and opinions of various laymen and experts alike, but to be skeptical—willing to try new patterns of fisherman behavior, but not too quick to swallow the well-baited theories of all and sundry. I believe it might be worth while to bring up the point again in this chapter, for quite a large amount of rather questionable material has been written about the Yellow Perch, and by men who are definitely in the expert class. Some of the advice sounds alluring, but all too frequently will bring you disappointment.

Let us look first at the artificial fly. You may have read some authors who will tell you that fly-fishing for Perch is great sport. There is no doubt about the truth of that statement, except for one little facet—the fly-fishing is sport, to be sure, but your catch is quite likely to be nil! I am speaking of dry-fly fishing—or did you know? *That* is the matter which we ought to get straightened out right away!

It is an irritating fact that very often you read of fly-fishing for

this or that species, without knowing whether your mentor refers to wet or dry flies. So entirely separate are the two methods, in conception, approach, and, with certain fishes, results also, that we should always establish first of all which method is intended.

I believe that among average fishermen, particularly nonparticipants, fly-fishing is usually thought of as pertaining to *surface* flies; and, though you might conceivably catch a Perch in this manner, it is a waste of time to my way of thinking. However, don't take my word for it. Let us look inside the stomach of the little fish. Therein, undoubtedly, will lie the answer to our question, and that answer will continue to prove to us that a study of the fish themselves will always give us numerous keys to their kingdoms of sport.

One extremely reliable survey, which examined numerous specimens, found that nearly one-half of the food in the stomachs of those taken from rivers was composed of crawfish. Specimens taken from lakes exhibited nothing but minnows and crawfishes. From this one survey alone, we immediately see what the Perch like best. It is possible, of course, that at certain specific seasons and places, their food might differ for a few days at a time. *But,* as we already know that the Perch is a ready biter on various baits, we can be assured that he is not, as we might say, selective to extreme in his tastes. Therefore, it is safe to conjecture that a minnow or a crawfish would be satisfactory bait, even though Mr. Perch happened to have found a new source of food temporarily.

I recall a chapter of a certain book on Perch fishing, in which the author urged fishermen to try the dry fly for Perch. I thought when I read that chapter, "How many disappointed fishermen there are going to be now!" For the dry fly obviously represents an insect, to us at least, and to a fish it most certainly is, at the very least and most obvious, *surface* food; the Perch, though he might conceivably feed at the surface on some rare occasion, is

almost exclusively an underwater fish, as his stomach will invariably show.

Now then, this is not to say that you should refrain from experimentation. I recall one time having watched Perch feeding on May flies. Around the Big Lakes, when their hatch is on, there are billions of May flies dancing over the water. With such a source of food so readily available, a fish would be very foolish to pass it up. These Perch, however, were not taking the May flies in what might be termed dry-fly fashion. As the dead or dying May flies dropped upon the water and became soaked and half-drowned—that is, partially submerged—the little Perch, swarming close to shore, gobbled them up as fast as they could stuff their little gullets.

I had read somewhere that May flies were an excellent Perch bait. Experimenting, I tried one on a very small hook, but found the fly so ephemeral—as I had suspected—that fishing with it was a downright nuisance. Why not, I began thinking, take a regulation Trout fly in a May-fly drake pattern, click the hackle down so that it would not float well, and cast it? If I could fish the fly in a half-drowned manner, perhaps it would do the trick, especially since it was obvious that the Perch were not *jumping* after the flies. This same trick had often worked while Trout fishing, when the Trout were in one of their extremely selective moods. I tried it—and it worked!

Of course, that might have led me to advise all my friends to fish dry flies for Perch. I never did so, because I was convinced that the Perch, which very seldom feeds on the surface, and almost never leaps from the water, was definitely not a dry-fly fish. True, you will read of fishermen who fly-fish for Perch. In writing, they have a habit all too often of stating that the Perch will "rise" to a fly. A "rise," as it is most often understood among average fishermen, means the action of a fish while surface feeding. That is the picture the reader forms in his mind, even though

the writer may have meant merely that the Perch would take a wet fly. Who is right and who is wrong in conception and terminology is unimportant. A few words of specific information would have saved many fishermen from disappointment.

You might give my May-fly idea a try sometime under like conditions; but if you are really interested in catching Perch, which I assume anyone is who fishes for them, then stick to the food they like best. At least you should look favorably upon a reasonable facsimile of such food—the small streamer fly, for example, if you prefer artificials. The streamer is an excellent bet, because it represents a small minnow so well. It should be fished with a small shot attached to the leader, for you want to get down where the fish can see it quickly and easily.

While we are at it, we might emphasize the matter of questionable information by having a look at some other Perch theories. Before me I have a magazine article about Perch fishing, in which the author claims that angleworms are far and away the best Perch bait extant. There is no doubt about it—the Perch will bite on an angleworm. I have caught many that way, often when I didn't want to, while fishing for other species. It is even conceivable that in the territory from which the author of this article hails, the Perch are partial to worms for some reason related to their habitat and ecology. Again, however, I should be inclined to skepticism regarding the value of such information as applied throughout the wide range of the fish. I would quote straight from the fish themselves, who will prove by their fat stomachs any time that they like minnows and crawfish best. And also, it has been the experience of many fishermen that angleworms net smaller Perch, fish for fish, than do minnows.

Perhaps you may have read the same article I did which stated that Perch will not take minnows in the early spring during their spawning run. Don't you believe it! I have caught literally hundreds of Perch in early spring on minnows, and again literally,

just as fast as I could haul them in! Truth of the matter is, in regard to live bait, my Perch fishing experiences in several widely separated sections have followed exactly the trends that the stomachs of the fish showed they should.

One of the most pleasant Perch-fishing experiences I ever had came about unexpectedly in North Dakota. From it I learned several things, one of which was never to believe people who tell you there are no fish in a lake. If you feel as though you'd like to fish a particular lake, by all means do so. That's exactly the way surprises happen.

On this day I was starting out to cross from eastern South Dakota to northeastern Montana. It was late summer, and my fishing had been very slim that season, due to pressing work. The day was such a fisherman's day that I began looking along the way for lake signs, and computing how much time I would have. Finally, in a small North Dakota town, I inquired about lakes in the vicinity. There was only one, I was told—Spiritwood Lake —but I was crazy to think of fishing in it.

Nonetheless, unable to resist the romantic sound of the name, I drove to the lake, purchased a license, and looked the place over. I had no idea what might be in it. The bottom seemed to be dark rock and gravel. I tried Bass bugs with no results. I trolled a plug, and then a large spinner. Nothing happened. Just as I was about to agree that I was crazy to have thought of fishing here, I pulled in over the shallows, and discovered dozens of small crawfish, about an inch long, scurrying about among the stones.

Something clicked in my mind. I gathered my bailing can full of the tiny crawfish and pulled back out into the lake. I tried ten or twelve feet of water. No results. Then I began a new approach. I started out by assuming that Perch were in that lake—big Perch. Big Perch would be in deep water, perhaps thirty feet of it. I would try that depth.

The minutes were slicing my few hours of relaxation to bits.

I don't believe it is common to find salted minnows in use, but we who have fished Perch extensively around Lake Michigan's Saginaw Bay in early spring, use them to some extent. Even then you find hundreds of fishermen in that locale who claim salted minnows will not catch fish. The reason I happen to know that they will is that I have caught my early spring limit of fifty in short order, not once but many times, on minnows I carried in my pocket!

You simply find a place where you may seine a few hundred minnows about 1½ or 2 inches long, late in the fall or winter. Scatter a thick layer of rock salt in the bottom of a large earthen crock, drain the water off the minnows, dump in a few, add more salt, and so on, until the crock is full. Cover the crock and keep it in a cold, or cool, place, until the spring Perch fishing begins.

You'll find, when you dip out a handful of minnows, that they're rather stiff and hard. Don't worry about it. They'll soak up, once they're in the water, and they'll stay on your hook far better than live minnows. You simply fill your shirt pocket with the dried minnows—and forget all about the bother of a minnow bucket. There's no fishy smell to them, and Perch will take them, during the early spring spawning period, just exactly as well as they'll take live minnows.

Though these salted minnows work well for the early fishing, I wouldn't advise them later in the season, for the Perch concentrations aren't as great then, and the fish are more discriminating in their tastes. Live minnows will do far better during the summer and fall, and I believe that if you learn to strike on about the third tug Mr. Perch gives your minnow, you'll have better success than you will by striking at the first evidence of a bite. Or, let him have his way with the bait. Let him run off with it; but when he stops running, set your hook.

As to artificials, I believe there's nothing for Perch fishing which will beat spinner combinations. Spinners are a natural be-

cause they apparently represent minnows, and also because they run deep enough to get down to the fish. I don't fancy large spinners, principally because I believe any fish thinks the proposition over mighty carefully before attacking food of large proportions, especially if it is in motion. If, however, you use a small pearl or copper spinner, the voracious little Perch grabs it eagerly. He doesn't wait to size up his chances, if your spinner combination is of a size to compare favorably with the minnows upon which Perch ordinarily feed.

Here again we see an excellent example of our earlier theory about a *moving* bait forcing a fish to forego his nibbling tactics. If a hungry Perch comes upon a minnow which is being fished "still," he usually will go through his three-part tugging act. A spinner pulled slowly through a school of Perch raises a question in their minds. It is now or never, as far as they are concerned. One makes a dash, strikes at the spinner, and is caught.

Don't make the mistake of fishing your spinner fast. Many a fish will start for it, but when it draws away from him, he will give up the chase and wait for easier prey. Here, in discussing spinners, we may thank the winter fishermen for giving us some excellent ideas. I don't know whether or not you have ever heard of the Russian hook, but ice fishermen have been using it for a long time, and making a killing with it on Perch in particular, and sometimes on Walleyes.

It is a simple gadget. It consists merely of a spinner blade with a short hook soldered to the inner, concave surface, with the "U" of the hook extending perhaps a quarter-inch below the bottom end of the blade, and the barb pointing outward, away from the blade. Some fishermen attach this spinner blade to a small swivel, which in turn is attached to the leader. Others tie the blade directly to the leader.

Perhaps it is not quite proper to call this lure a spinner blade. Most Russian hooks are made somewhat heavier than the average

spinner, and many fishermen dote on making their own. I even know several ice-fishing enthusiasts who collect old gold watch-cases, and cut Russian hook blades out of them.

The manner of fishing this Russian hook is as simple as the lure itself. Through a hole in the ice, the fisherman drops his line and leader, which is attached to a short rod, or held in the hand. He



Typical Russian hook, as used by northern ice fishermen. Homemade as a rule, they are cut from old watchcases, or spoons. The hook is then soldered to the inside of the blade. A killer lure for Perch.

simply jigs the baitless hook up and down slowly, raising it a few inches, agitating it, dropping it again. And the Perch fairly battle each other for a chance to get caught!

Now then, we can take a page right out of the ice fisherman's book for our fly-rod Perch fishing. For the Russian hook will intrigue a Perch as well in warm weather as in cold. You may cast it out without a split shot, for the blade is heavy enough by itself, yet not unwieldy on light tackle. Let it sink a few feet, then jig it easily with your rod, meanwhile taking up line as you pull it toward you. It is a killer.

Of course, any sort of spinner combination may get better warm weather results if bait is added. Try using a spinner which

trails a hook baited with crawfish, minnow, worm, or even with a piece of Perch. Remember, Perch often exhibit cannibalism, and they relish a hunk of their brethren. The obvious reason for using bait with your spinner is that a Perch which strikes without getting hooked will usually have another try at it, if he has tasted legitimate food trailing behind the spinner

Don't forget, when you catch a Perch, that the fun is just beginning. You might circle an entire lake and not have a single strike. Then, suddenly, comes that first one. That's the very spot, my friend, to settle down to hard fishing. For all you know, you may have been trailing a school of Perch all day, while they fed ahead of you. Once you catch one, though, you can be reasonably certain there are others close by. Give the adjacent waters a good going over, and you'll almost certainly fill your quota. Be careful, however, not to frighten the school. If you can avoid dropping anchor, by all means do so. If the fish are in shallow water, as they usually are in the spring, even after spawning is over, more care yet will be necessary. Later in the summer, they will be around the weeds and rock piles in deeper water, and you won't face quite the hazard of scaring them.

We might just briefly consider plug-fishing for Perch. I wouldn't go so far as to say it is a good method, except under specific conditions. I recall several instances when I have taken very large Perch on small plugs, and even on large Bass and Pike plugs, which tends to prove that sometimes they will dare the result of such attack. If you should happen to get into a school of very large Perch, and you can't take them with a streamer fly, or with bait or spinners, try trolling deep with small plugs. It may do the trick, and those big fellows will give a good account of themselves.

So far we haven't said a word about the family to which the Eatin'est Fish belongs. We'll certainly have to take a brief look at it, because it is one of the most interesting of all our finned

families. First of all, it is one of the largest families of freshwater fishes. And here's what's odd about it. The Yellow Perch, the Walleye, and the Sauger, all of which belong to the *Percidae*, or Perch family, are probably the best known of any freshwater fishes the world over. This is particularly true of the Yellow Perch. Yet, out of the whole huge family, these three are the only ones with which the layman is usually familiar, and even the scientists admit that they are none too satisfied with their present knowledge of the family majority. Oddly, too, these same three well-known fishes are the only ones of account to us as Game Fish, or as food fish. The rest of the family belongs to a group called the Darters, which is sometimes set apart by scientists as a sub-family. All of the Darters are very small and brightly colored, and they are of no value for either food or sport.

Although it is unlikely that we will ever confuse the Yellow Perch with any other species in our waters, we should nonetheless give him a going-over before we leave him, because he exhibits, and is representative of, certain characteristics which we have so far not encountered.

You might think of the Yellow Perch, *Perca flavescens*—and his whole family, for that matter—as being a sort of shirttail relative of two other fish families. He holds an evolutionary position about halfway between the Sunfishes and the salt-water Sea Basses. The big and obvious difference which sets him apart from the Sunfishes is the way in which his dorsal fin is constructed.

You would know immediately that he is *not* a Sunfish, because he appears to have *two* dorsal fins. On closer examination, however, you discover that the forward fin is composed of twelve to fourteen very stiff, sharp spines, and that the posterior fin has one or two spines and the rest soft rays. Thus we begin to conclude that, structurally, these are not actually two fins, but one regulation dorsal fin completely divided into its component parts. The Sunfishes, remember, have dorsals composed of hard for-

ward spines and posterior soft rays, but the two sections are not completely divided.

This dorsal fin arrangement keeps us from confusing Perch with Sunfishes, but it doesn't help much as far as the close relatives of the Perch—the Walleye and Sauger—are concerned. We would expect, of course, that the Walleye would be a larger fish, and without the distinct dark, vertical body markings which have caused the Yellow Perch to be called Ringed Perch, Raccoon Perch, Zebra Perch, etc. If, however, we should ever confuse the Yellow Perch with young Walleyes, the simplest way to tell which is which is by looking inside the mouth. Although the mouth of a Perch contains many small teeth, it does not have the large canine teeth so characteristic of the more predaceous Walleye.

Again we find, in the case of Perch, substantiation for our warning about using color, except in a very general way, as a means of identification. Although a Yellow Perch is usually yellow in general coloration, this color is extremely variable with changes of habitat. I recall that the Perch I told of taking in North Dakota's Spiritwood Lake were very dark, the backs blackish, the sides deep green tinged with a yellowish cast toward the belly, so that the vertical stripes showed up hardly at all as they were taken from the water.

Sometimes there appears to be a purplish sheen to the head and sides, or, in other specimens, these same portions may have a coppery hue. I have taken Perch out of Saginaw Bay which were dull olive color, and from Lake Erie some which were bright yellow.

Size also varies somewhat. The maximum average, I should say, is about ten inches, while the minimum, because of abundance and stunting in many lakes, can be anything down to two inches. Now and then very large specimens are taken, up to two pounds, and I believe there was a record some years ago of a Perch which

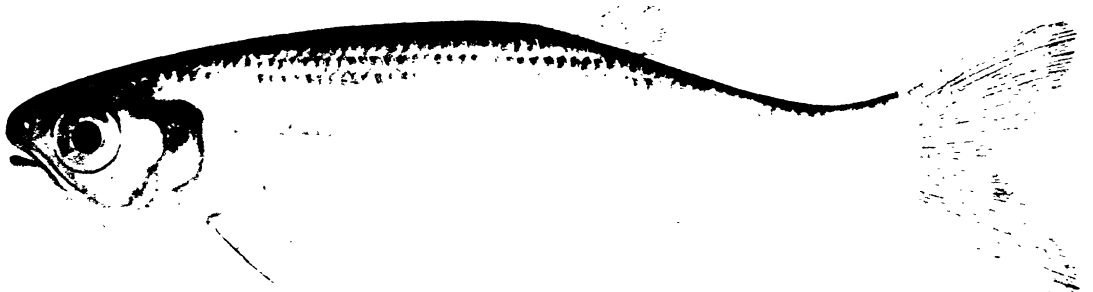
tipped the scales well over three pounds. Jordan and Evermann, in their monumental works on fishes, state that the Yellow Perch of Europe apparently grow a great deal larger than ours, and mention records running up to nine pounds.

We might put down in our memory, just for the sake of having the knowledge handy, that the vertical bars on the sides of the fish usually number seven. The reason I mention it is that you can make a little money on a bet about it, next time you go Perch fishing. It's fun to know a lot of facts about your fish, and you'll find that many of the old-timers who've caught Perch by the thousands still can't tell you, without looking, how many stripes there should be.

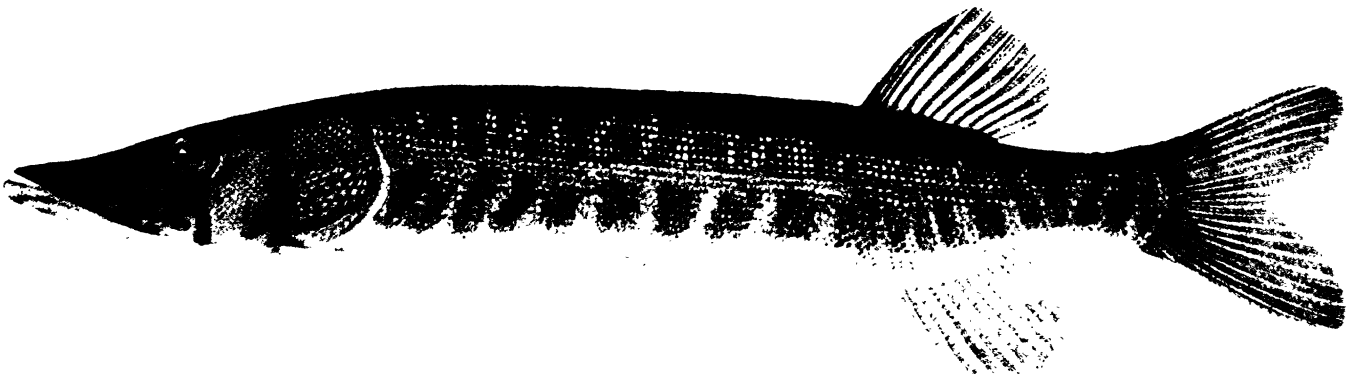
Also I think we should keep in mind that it's an excellent idea to scale Perch just as soon as possible after they're caught. The scales are fine, and very hard, and are seated deeply. Once they dry even a little bit, they're a tough proposition. And watch that dorsal spine, not only when scaling, but also when you attempt to take a Perch off the hook! No group of fishes is any better fitted for self-defense than the large members of the Perch family. A bad jab from those dorsal spines can be most painful.

You really can't blame the little Perch, though, if he protests dorsally against the handling you give him; and a nick from his spines now and then will serve to make you appreciate him. Indeed, there's no species more worthy of your attention, when you feel like a good fish dinner. And he's a dependable fellow. He'll be around almost always when you are, even if none of his gamy brethren are. You may be sure, too, that when you're hungry, he will be also. He's as famous for his co-operative habit of eating the meals fishermen offer him as he is for returning the favor.

And now, while we have the Eatin'est Fish fresh in our minds, let's hone our heavier hooks and give his big brother a chance to prove *his* right to a place among our Game Fishes.

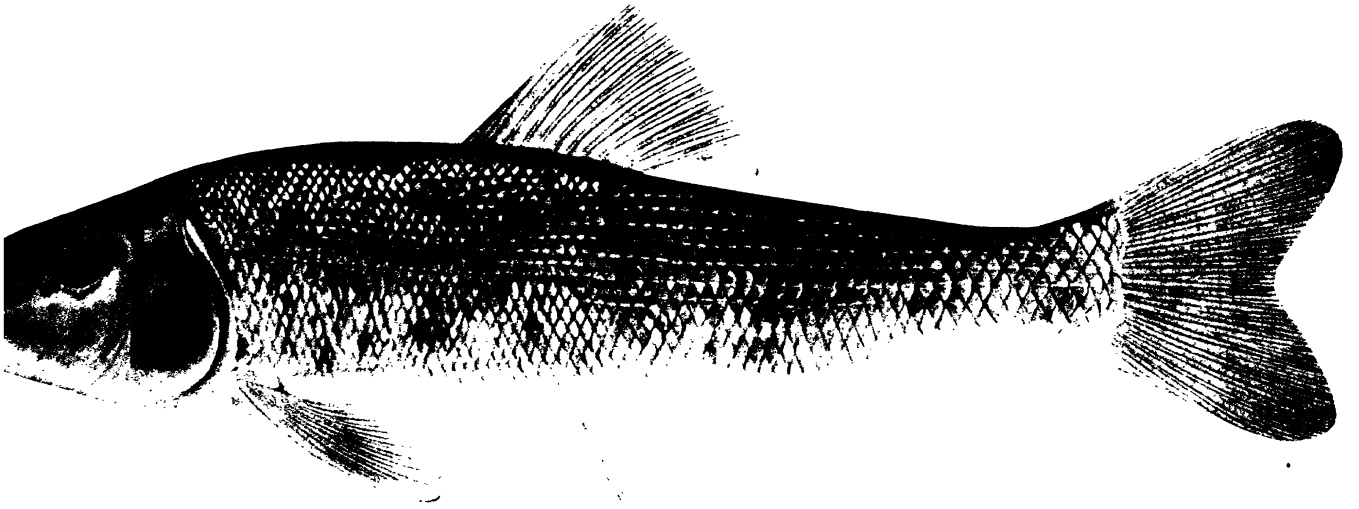


MOONEYE, *Hiodon tergisus* (Le Sueur)

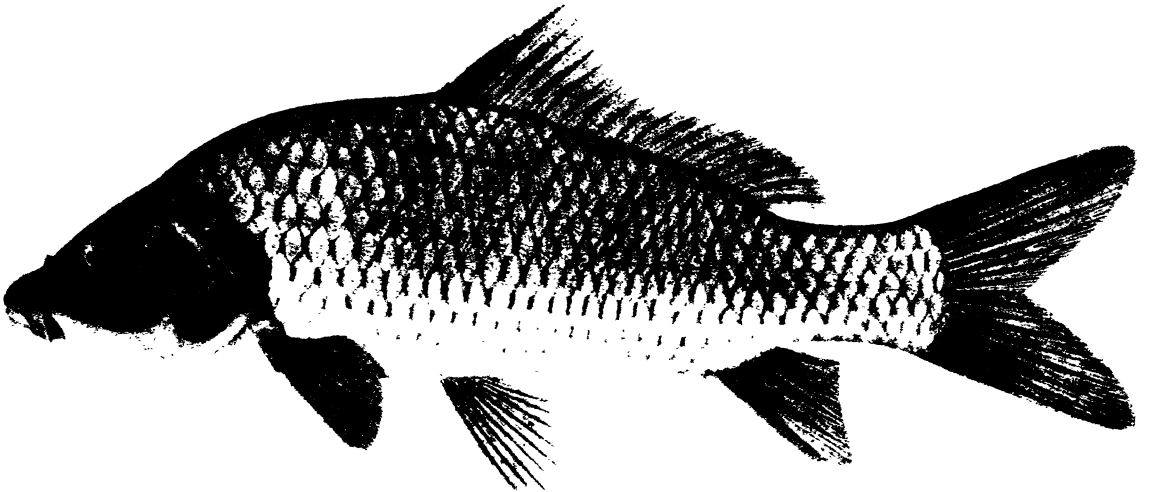




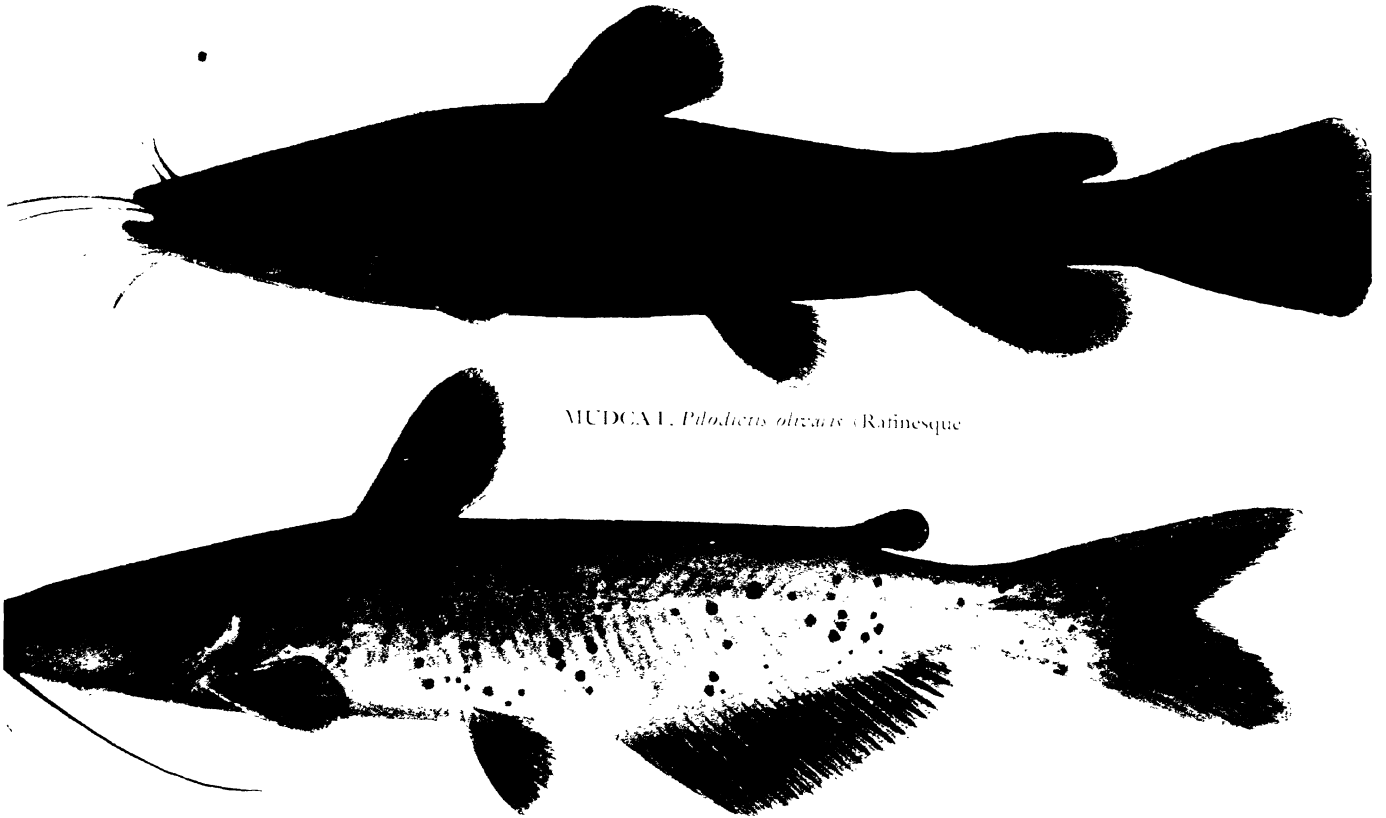
AMERICAN EEL, *Anguilla bostoniensis* (Le Sueur)



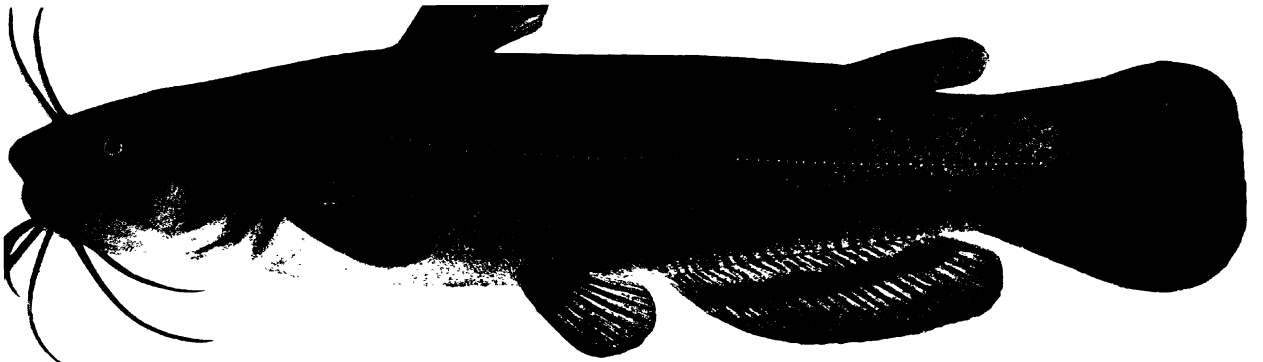
COMMON SUCKER, *Catostomus commersonii* (Lacépède)



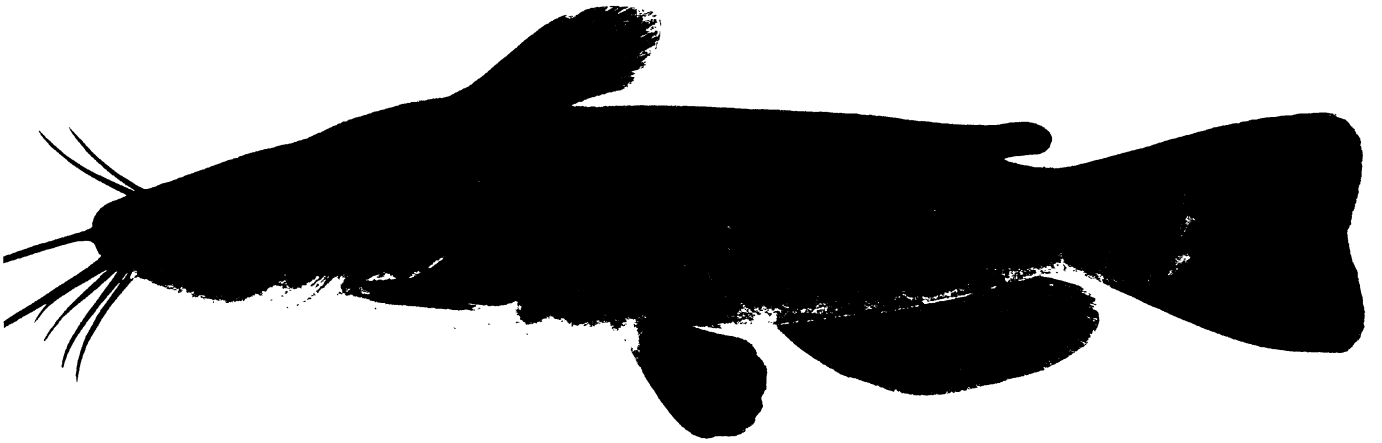
EUROPEAN CARP, *Cyprinus carpio* (Linnaeus)



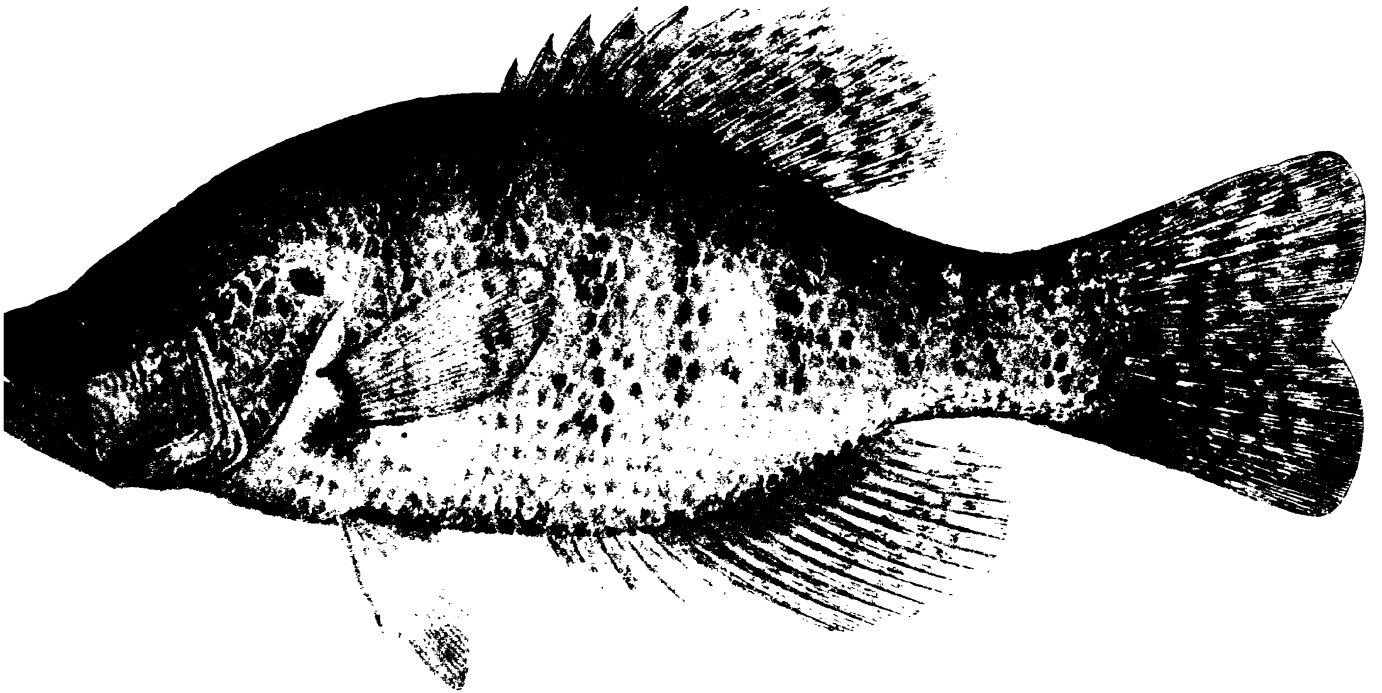
MUDCAT, *Pilodictis olivaris* (Rafinesque



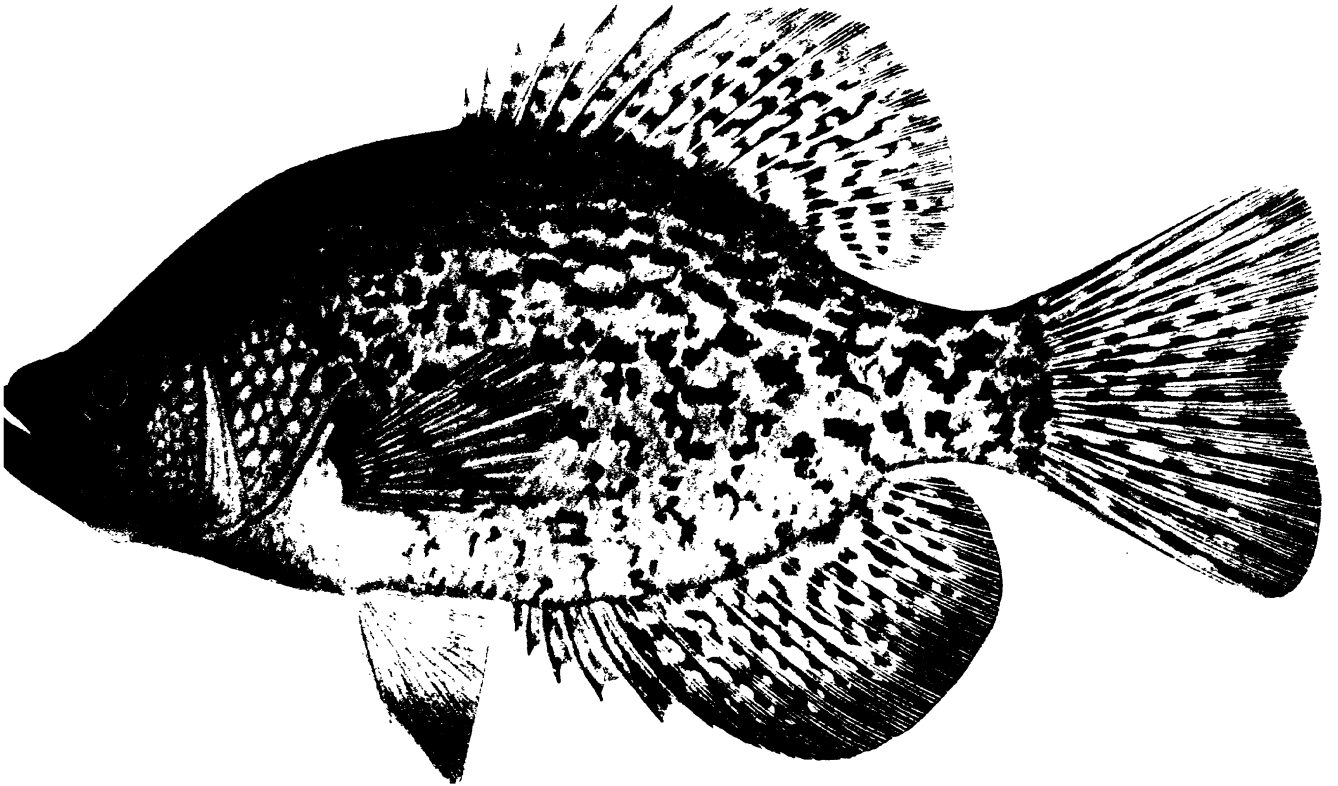
YELLOW BULLHEAD, *Ameiurus natalis* (Le Sueur)



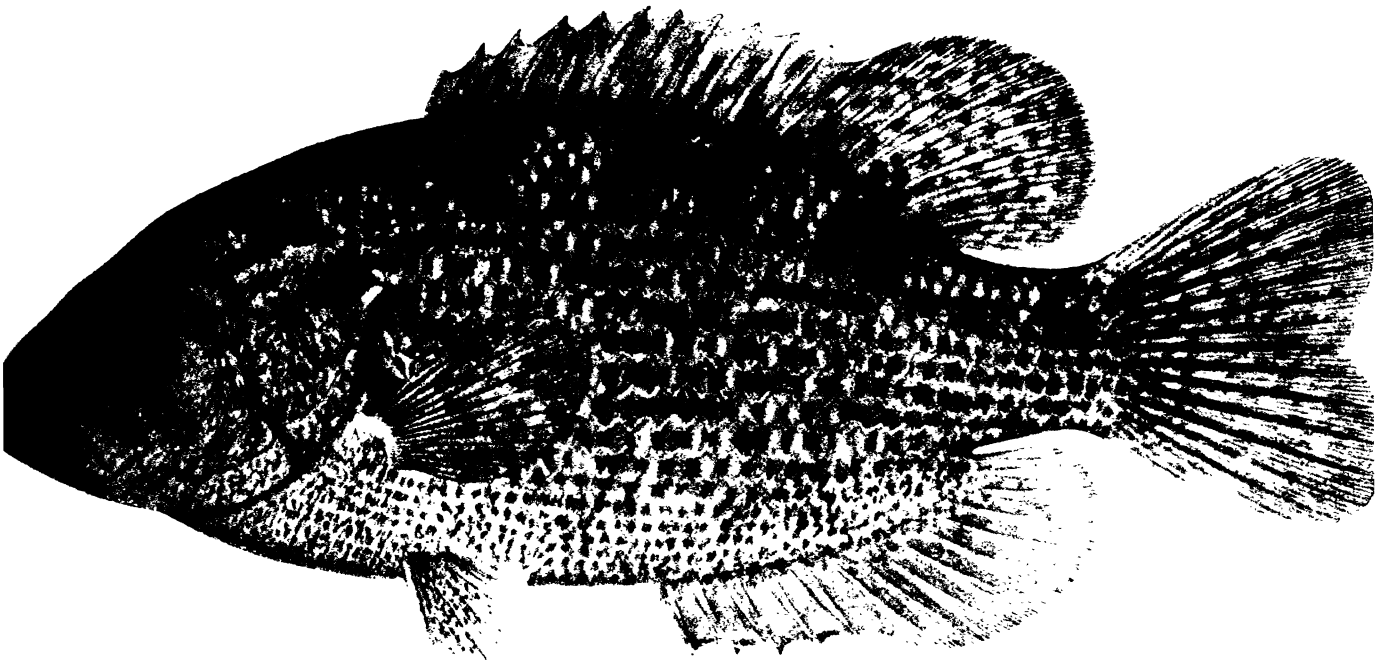
BROWN OR SPECKLED BULLHEAD, *Ameiurus nebulosus* (Le Sueur)



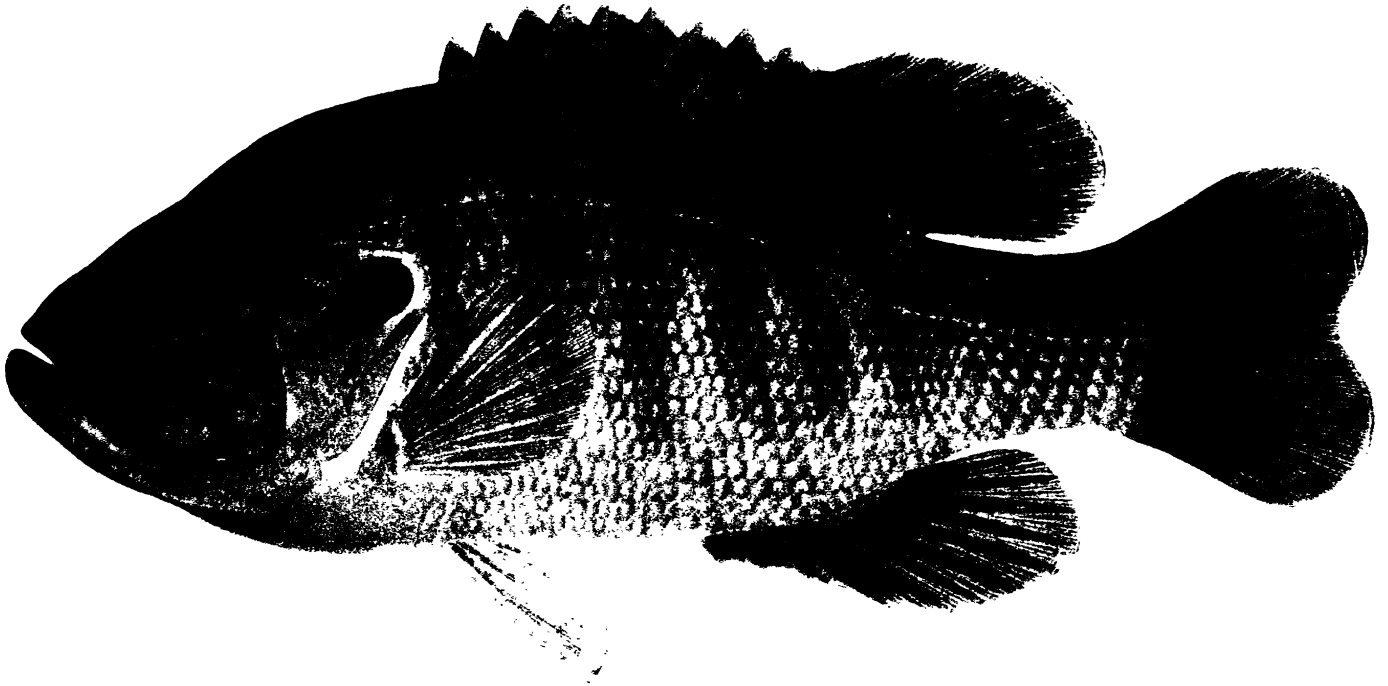
WHITE CRAPPIE, *Pomoxis annularis* (Rafinesque)



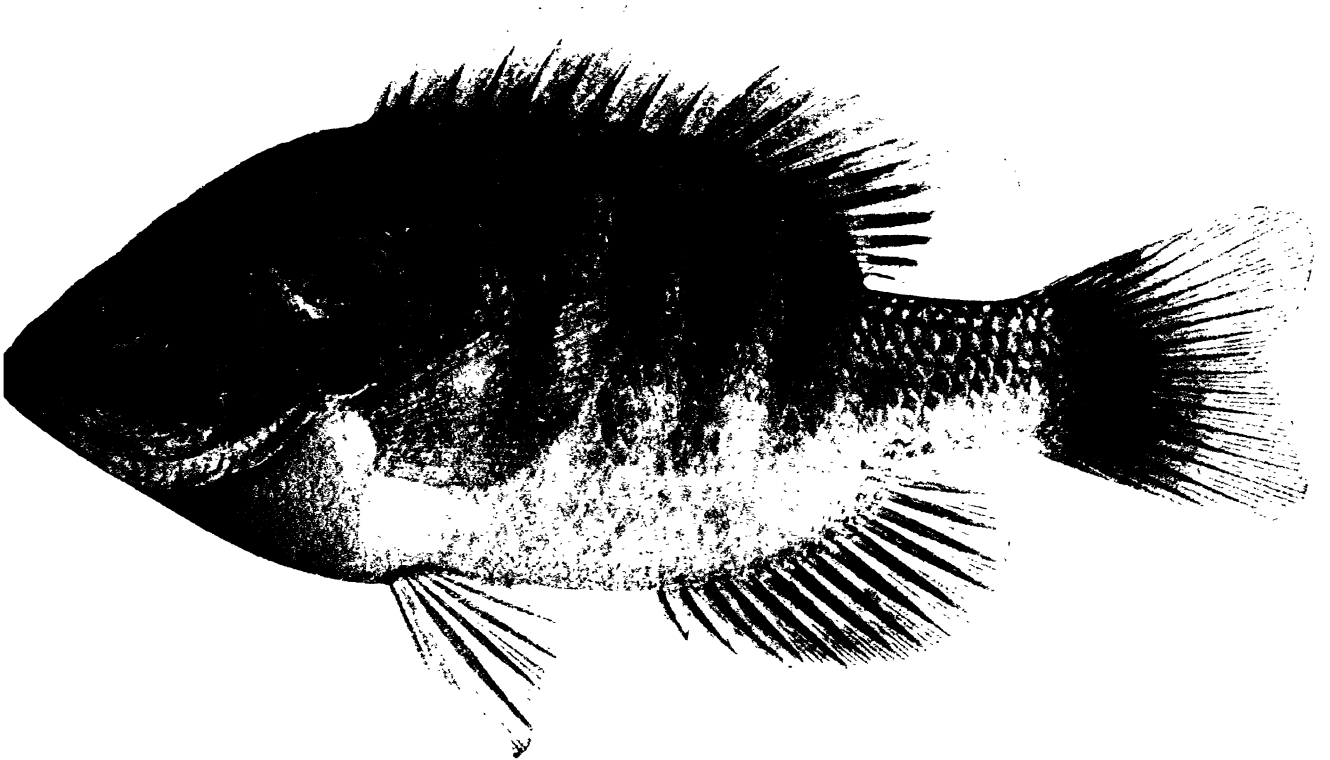
BLACK CRAPPIE. *Pomoxis sparoides*. Le Sueur.



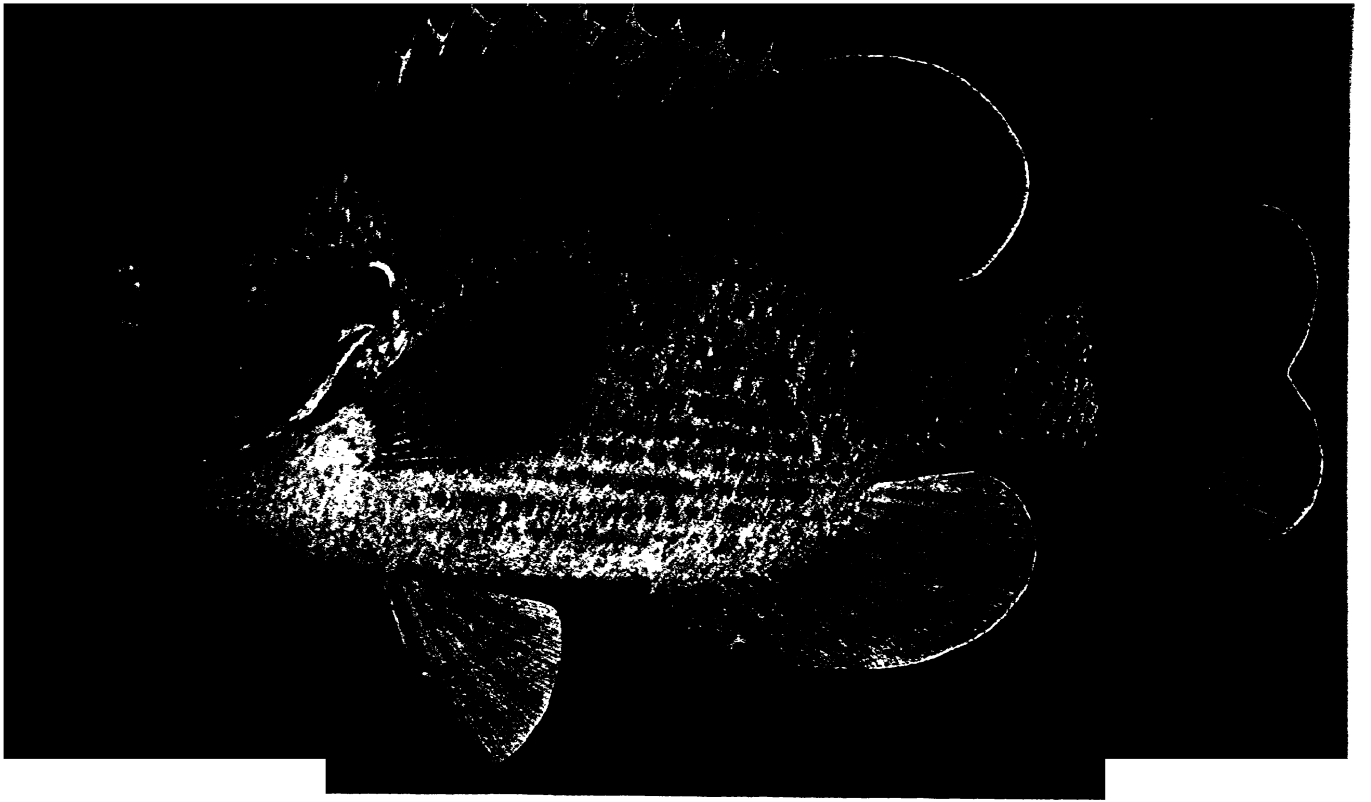
ROCK BASS, *Ambloplites rupestris* (Rafinesque)



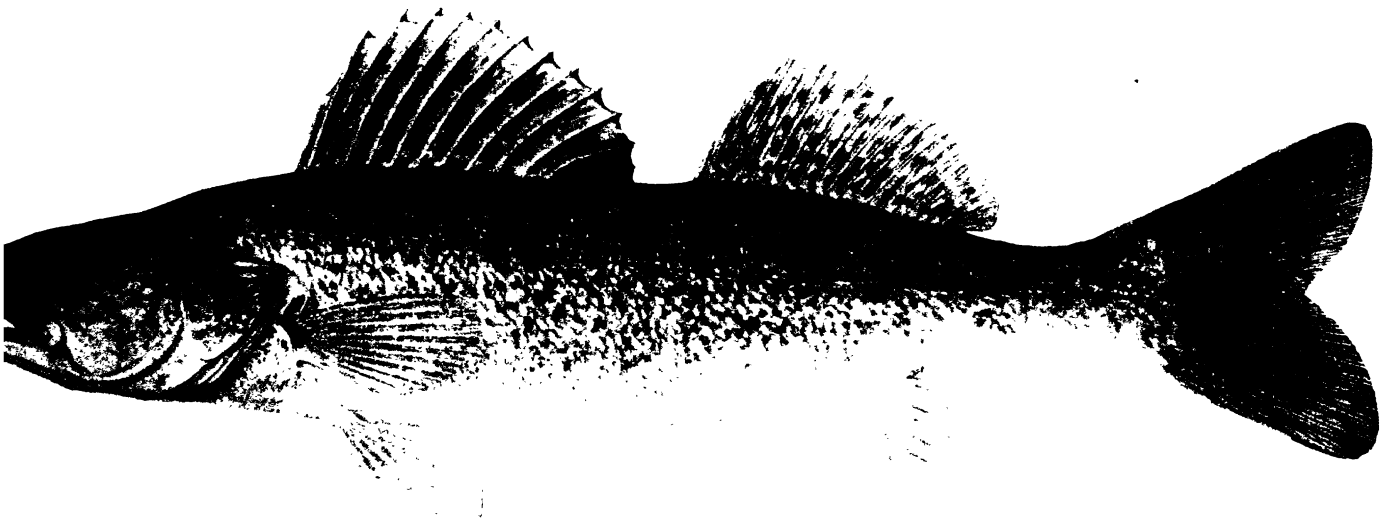
GREEN SUNFISH, *Lepomis cyanellus* (Rafinesque)



BLUEGILL, *Lepomis macrochirus* (Rafinesque)



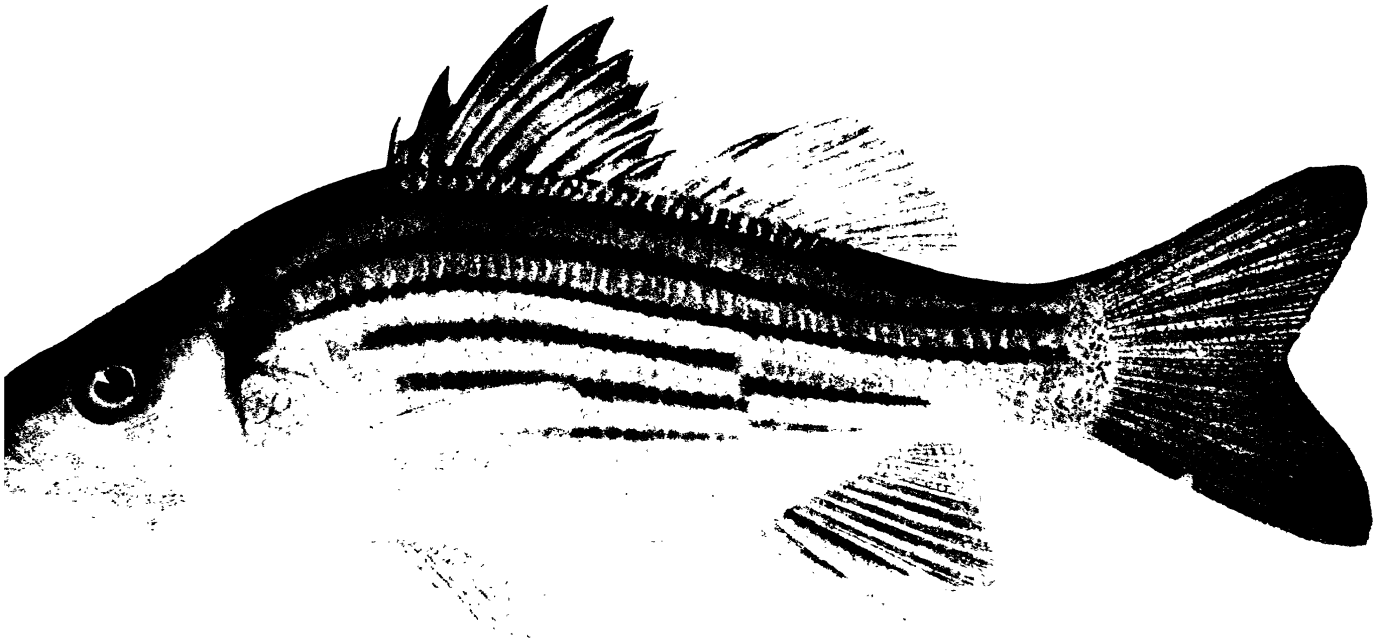
"GARMAN'S SUNFISH", *Lepomis miniatus* (Jordan)



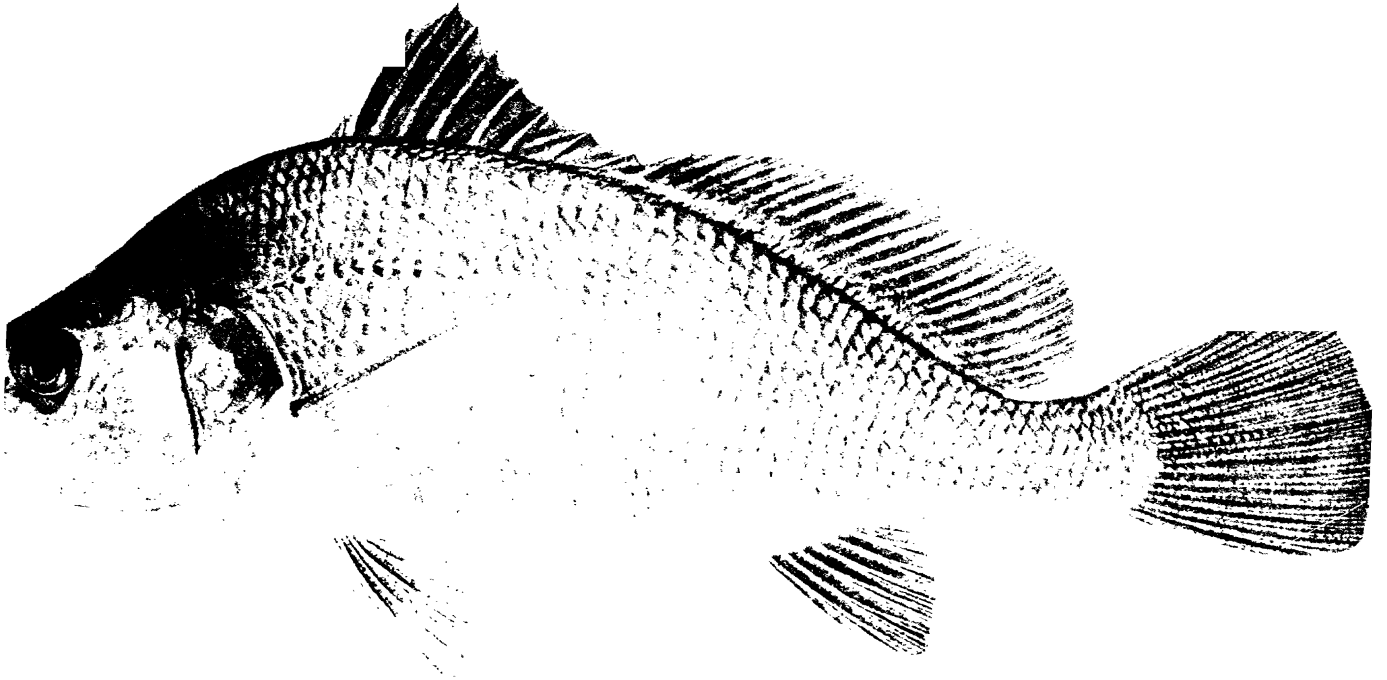
WALL-EYED PIKE, *Stizostedion vitreum* (Mitchill)



YELLOW PERCH, *Perca flavescens* (Mitchill)



YELLOW BASS, *Morone interrupta Gill*



SHEEPSHEAD, *Aplodinotus grunniens* (Rafinesque)

Old Bleary

IF GREAT-UNCLE PETER, who died before my brother and I were born, had not caught the Sturgeon, our education might have progressed—in the case of the Wall-Eyed Pike—without the hitch of a family misunderstanding. The Sturgeon story was one which had been bandied about in our household for years. Although we were not classed, in the country neighborhood, as a fishing family, no one could possibly deny interest in the event of an extra large catch, no matter who made it. Obviously, any neutral and uninformed person is bound to oh and ah, at least some small amount, when he gazes upon a fish "*that* long."

It seems, in the case of the Sturgeon, that some years previous to the entrance of my brother and me into the world Great-Uncle Peter had come home from a fishing jaunt to some point

in the Flint near our childhood home, with a great fish over his back. Just why we failed, over all these years, to get exact information on it, I still cannot understand. However, the mystery of half-knowledge surrounds the tale, even yet, with something of romance. We have always taken for granted, you see, that this mammoth Sturgeon gave his life to the good cause of early family tradition.

We had a very detailed picture of the event, gleaned from an old-fashioned trade-mark showing a man with a long fish hanging over his shoulder. I believe the trade-mark was stamped on the box of some kind of dried salt codfish on mother's pantry shelf. Each time there was company, and the conversation came round in any slight way to fish or fishing, my father would tell of Great-Uncle Peter and the Sturgeon.

So it was that one of the Kile boys, coon-hunting neighbors of ours, was to catch a "Sturgeon" one chilly September afternoon, without even knowing it until much later. My brother and I had come across the rattly old plank bridge, heading home from the tiny and obsolete old millpond from whose black and stagnant waters we had acquired a very sparse string of small Bullheads. The Kile boy—I believe it was Burt, who wore mittens all summer so as to keep his hands in shape for fiddling at square dances—was fishing beneath the bridge, letting his long cane pole far down so that the minnow on his heavy hog hook would sink near bottom around the rocks and stumps in the deep hole where the current, as the Flint flowed, was swift and cold and clean.

Just as we arrived, the pole bent slowly, as though the hook had been snagged. He lifted. The pole bent more. He hauled in slowly, forcefully. "Shucks," he said, "guess I've hooked a brush."

We watched complacently. Then, suddenly, when the line was nearly in, the pole gave a dive which bent it double. The salt-and-pepper line went *whoosh*, slicing brown water. Burt

started up from his squatting position as though a bull thistle had sprouted with a burst beneath him. His brown arms knotted, and he hauled back with a furious yank. Oddly, the hook held. Out of the water a long, trim fish burst, sailing high, making a dark silver arc through the nippy September air.

It landed with a heavy thud, back in the brush. There was a mighty threshing, and we all ran to see what it was. "A Pike!" Burt shouted. "And a good one!" Then he bent, frowning, and stared at it. "Wonder what's went wrong with his eyes."

He wasn't asking us. We were too young and inconsequential. He was simply expressing his perplexity and amazement. To us the fish seemed huge. It had the general lines of a Pike, with very efficient-looking teeth—but its eyes were so baleful and bleary looking that we were immediately certain it must be blind.

We legged it for home, discussing in high excitement what it might be. It was not at all like the Pike Uncle George had brought home. Suddenly, and with a masterful stroke of scientific insight, my brother hit upon the idea which exactly fitted both the fish and the size of our imaginations.

It was, he said flatly, a Sturgeon. Remember the picture on the codfish box? Exactly what it looked like, only smaller. However, as we neared home, it grew sufficiently to drag an inch or two of its tail as we pictured Burt carrying it home over his back. Burt had caught a Sturgeon.

Our story was accepted awesomely, but without suspicion, for everybody agreed that Burt Kile knew fish. Mister Teeple was putting away his horses across the road, and of course he was quickly informed of this super-special event. A Sturgeon in the Flint, these days! Unheard of!

Mister Teeple spread the news by phone to several other neighbors. Those who were not notified listened in anyway, as was the country custom. Presently people began to converge upon the Kile home to see with their own eyes the Sturgeon

which dragged its tail in the dust as Burt lugged it home over his back.

Somehow, you see, we had got so mixed up between fact and imagination that we were *positive* Burt had *said* it was a Sturgeon; and of course we had seen with the super-alert and sharp vision of youngsters the way its tail dragged down Burt's back!

And so it came about that the fish called Wall-Eyed Pike, or Pike-Perch, which had never previously been caught in our section of the Flint, was impressed indelibly upon my brother and me—not, however, so much upon our minds, if you follow me. My Great-Uncle Peter, whom we had never seen, and Burt Kile's Walleye joined my dad, in spirit at least, out in the woodshed, where we received a forceful and profusely punctuated lesson in elementary ichthyology.

To the best of my knowledge that was the only Walleye I ever saw until I was of college age. But when the second one rolled his bleary orb at me from the end of a minnow-baited line I had drifted down into the turbulent waters of the Huron River, where it empties out of the power dam near Ann Arbor, Michigan, believe me, I knew at once what it was.

Though I wish no embryo angler such an experience as my first, it might be an excellent method for setting the Wall-Eyed Pike straight in our minds. Truly he is a fish of so many entirely unfounded and incongruous identifications that I believe we had better catalog him, to be certain we're all thinking about the same fish, before we discuss his habits and how to coax him into the frying pan.

I suppose there's no use in being irritated about it, but some of the misnomers of the Walleye are so completely unjustified that it would take an unusually healthy imagination even to guess at how the colloquialisms could have come about. Chief among these is the way in which the names Salmon, White Salmon, Jack-Salmon, and Susquehanna Salmon have attached

themselves to a fish which is about as far removed from the Salmon family as it possibly could be. Next in line is the amazing name of River Trout. I say amazing, because the Trouts, as we fish them, are in great part river fishes. How a Walleye could be set apart from them even colloquially by the prefixed qualification "River" taxes the imagination.

Though I am not familiar with the origins of such names as Doré, Okow, Jack, I suppose it may be that they have quasi-logical explanations. Yellow Bass, however, is a complete misnomer. I am not certain, but I assume that the name Spike may have had something to do with the bristling armor which the Walleye carries on his back and gill covers. The dorsal fin is very tough and sharp, and the knife-edged gill covers are capable of inflicting really painful wounds.

The name Blowfish is a tough one, although it, too, may have had a certain amount of logic in its origin. The air bladder of the Walleye is very sensitive to quick changes in pressure. Thus, when Walleyes are brought up quickly from deep water, they are likely to bloat. This instant bloating takes a lot of the fight out of the fish, too. Perhaps Blowfish was the result of close observation by some alert fisherman.

The names which allude to Old Bleary's odd-looking eyes are certainly logical enough: i.e., Glass-Eye, White-Eye, and of course his most common names, Walleye, or Wall-Eyed Pike. That eye of his is, indeed, his most obvious characteristic, and, it always seems to me, a perfect indication of his recalcitrant character. The Pike names which he has gathered may be logical enough, but they certainly serve to confuse a host of fishermen. Most of them have to do with color. For example: Yellow Pike, Green Pike, Blue Pike, Gray Pike, Yellow Pickerel, Blue Pickerel, and so on *ad spectrum.*

The reason I class these as logical but confusing is that without doubt the Wall-Eyed Pike, or Pike-Perch, has been confused

with the true Pikes in many places and at many times. He is not, of course, a Pike at all, but a Perch, the largest and most important fish—from a natural resource point of view—of the entire Perch family.

However, his body form somewhat resembles the Pikes, and his large canine teeth—absent, remember, in the Yellow Perch—are reminiscent of the Pikes, especially when Old Bleary happens to clamp down on your hand or finger! He has the head of a Pike, and the mouth of a Pike, fused to the body of a Perch. He is also somewhat Pike-like in his actions, his tastes, and his habitat. As one of the scientists has put it, his tribal characteristics are those of the Perch, but his *habitus* that of the Pike. In other words, he stems structurally from the Perches, but has adapted himself to Pike environment.

It will not take you two seconds to learn how to separate him from the Pikes. Look at his dorsal fin arrangement. It is primarily the same as that of the Yellow Perch—that is, the dorsal fin is split into two parts, one spiny, one soft, while the Pike has but a single, soft-rayed dorsal fin. Look, also, at the comparative arrangement of the ventral fins. Those of the Walleye are directly below the pectorals, while those of the Pike are set about midway between the pectorals and the anal. As a matter of further observation regarding fins, you will note that the dorsal fin of the Walleye has a membrane attached to the last dorsal spine, which binds it down to the back, prohibiting erection of that spine.

What seems most incongruous about the confused position in which Old Bleary finds himself locally among anglers, is the fact that he is perhaps the easiest of our fishes to distinguish from any of the others. The only fish he closely resembles—if we remember his baleful eye, his split dorsal, and his canine teeth—is his diminutive half brother, the Sauger. This little scale model of the Walleye is very difficult to distinguish from the old man

himself. Positive identification, in areas where color differences between the two are slight, is very nearly impossible for the amateur ichthyologist.

We'll have a look at the two species, side by side, just for the sake of augmenting our general knowledge. As far as actual fishing is concerned, whatever is said of the Walleye is essentially true of the Sauger. Thus, as we continue to discuss Old Bleary, we'll consider it as applying generally to the Sauger. We'll let this little half brother of his sit in as a silent partner.

Here's the way the two kin-fish look on paper. Under the family *Percidae*, there is a genus with the horrible-sounding name, *Stizostedion.* To it belong the two species: *Stizostedion vitreum*, which is a tongue-twisting way of saying Wall-Eyed Pike so no one will know what you're talking about; and *Stizostedion canadense*, the scientific name for his pint-sized relative, the Sauger. These two species, except for controversial sub-species, have the genus all to themselves.

There has been a lot of scientific haranguing, particularly relating to Saugers, about some very minor differences between specimens taken from various localities. So we find a certain amount of confusion regarding him. Thus, if you come across scientific names other than those given, you will know that they are merely sub-species of *canadense.*

In Illinois, for example, the sub-species is labelled *griseum.* Thus the full name would, or should, be written, *Stizostedion canadense griseum*, meaning that this fish is the *griseum* phase of *canadense.* If a scientist wanted you to be sure that his specimen was the true *canadense*, he would write it, *Stizostedion canadense canadense*, which is like saying, "This is the McCoy," and adding an exclamation point. This same procedure would apply, of course, to sub-species of other fish as well.

Confusing? No, I don't think so. As a matter of fact, it isn't nearly so mixed up as common names often are. For instance,

colloquially, the Sauger is also your old friend the Sand Pike, or Gray Pike, or Ground Pike, or Rattlesnake Pike, or Pickerel, or Pickering, or—of all things—Horse-fish!

Let's lay a specimen each of Walleye and Sauger out on our laboratory table and compare them. These are adult fish. The most immediately noticeable difference is in size. Our Walleye is a good two feet long, while our Sauger, or Sand Pike, is but eighteen inches. This is about as big as he ever gets, although Walleyes may reach three feet, and a weight crowding, or topping, twenty pounds. One or two pounds is about average for adult Saugers.

Now look at the soft portion of the dorsal fin on our Walleye. Almost always it will have *more* than twenty rays, while the Sauger fin has usually just *under* twenty rays. Note that the cheeks of the Walleye are sparsely scaled, but those of the little Sauger rather closely scaled. Now, back to the fins again. At the base of the spinous portion of the Walleye's *dorsal* fin, there is a distinct black blotch. This is absent in the Sauger, but he has a distinct black blotch at the base of his *pectoral* fin.

Now then, hold your breath and your temper. All of these identification tags, sadly, are not infallible. They *usually* occur, but not always. It is about the same with color. The Walleye is generally brassy or olive, shaded downward to lighter yellowish olive, and mottled with a darker tone, or black. These mottlings appear along the back, usually as five non-symmetrical blotches, with smaller markings of the same sort in between. The belly is yellowish white, or even tinged with green. However, in cold northern waters Walleyes may sometimes be a beautiful deep bluish black or purplish in general color, sprinkled with gold.

The Sauger, generally, is a bit more on the gray side, although sometimes brassy to orange, with the usual darker mottlings. I have seen many of them taken out of Lake Huron which were

very much paler than Walleyes, almost a silvery color. Usually the spiny dorsal fin has several rows of round, black spots, while the Walleye has a narrow, ink-black margin on this same spiny portion of the dorsal.

If it were not for the fact that Walleyes have to be baby Walleyes before they come of catching size, we could easily tell the two fishes apart by size alone. But on this size question hinges an interesting, though deplorable, circumstance. In certain sections there is a size limit on Walleyes, and, worse luck, Saugers occur in the same waters. The lawbreaker who takes undersized Walleyes and gets caught, simply sticks to his story that they are Saugers. As most of the identification tags may not *always* hold true, he gets by with his story. Even if the Conservation Officer attempting to make the arrest happens to be a professional ichthyologist, the poacher is safe—*if* he has gutted his fish.

Luckily, in the "innards" of the two species lies the best key to positive identification. It is for this reason that I have chosen to give so much time to the problem, for it shows us just how difficult it can really be to know our common species. Attached to the stomach—in many species—there are small blind sacs which connect with the alimentary canal only at the top. Each of these is called a *caecum.* The plural would be *caeca.* These *pyloric caeca* number three in the Walleye, five to eight in the Sauger.

So now, at last, you are a Walleye-Sauger expert. Or are you? Even at a cost of making you furious, I must tell you that even this *pyloric caeca* business is not absolutely one hundred per cent sure!

So let us forthwith forget the whole matter, until sometime when we have occasion to see if we can tell which is which, while I unfold a woeful tale of Walleye fishing, with an opinion to go with it.

The place is a northern Michigan lake, the time a few seasons back. There are two of us sitting in a boat, still-fishing for Blue-

gills with our fly rods. The day is calm, but the Bluegills are down. We have given up dry flies, and have found them shy of the wet flies we happened to have with us. So we have beached the boat long enough to collect some grasshoppers, and now we are playing big Bluegills one after another, and having ourselves a most hilarious time—until suddenly the fish stop biting, just like that.

We sit, dangling our grasshoppers (which are threaded on small Trout flies) in some twelve feet of water. Nothing is happening. The show is over—or is it? My partner, short on experience, but long on desire to fish, suddenly has a bite. Nothing extra—just an average tug. He sets the hook. He turns to me with a rather wild-eyed expression, while his rod whips over into a short loop. I am unperturbed. He has an unusually big Bluegill.

Suddenly I see his automatic reel spinning. The fish is taking line, and there's nothing he can do about it, unless he cares to break either his leader or his four-ounce split bamboo. As it happens, he is using a very strong leader.

"Give him line!" I yell. "Pay it out! Quick!"

He doesn't need this advice. The fish is taking care of that.

This, of course, occurs in a matter of split seconds. Not a great deal of line has gone out. I see the fish race past the boat. It is a Walleye, which I would judge to go upwards of six or seven pounds. Line has now ceased to run out. My partner is holding as hard as he dares—his face is pale. He beseeches me to take his rod. I argue, but he suddenly shoves it into my hands and lets go. He has never had a large fish on a fly rod.

The fish goes straight down to the bottom—and stays there. This is a typical Walleye stunt, so remember it, in case you and Old Bleary haven't met yet. He is in no more than twelve feet of water, with sparse weeds, but no logs. All he will do is shake his head from time to time, not budging a single inch.

I "give him the butt"—that is, arc the rod and whack the butt with my palm, trying to sting him with the hook. This should

get action. But no. Nothing doing. I instruct my friend, after perhaps ten minutes of simply sitting there and keeping the line tight and working it back and forth, to lift anchor. We move directly over the fish. We drop the anchor near him. We pound on the bottom of the boat. I seesaw the line. No d.ce. He moves perhaps a foot—and sulks.

Of course, neither the hook nor the leader is strong enough to stand such treatment long, and I'm anxious to get him into action, thinking perhaps we still may be able to land him. Do you know, we fooled with that fish for nearly twenty minutes, and absolutely could not make him move. I pulled until the rod was practically in a circle, and longed for a stronger leader and a steel rod. Finally, completely licked, we gave up. I took the line in my hand and gave a steady pull. He shook his head viciously, and snapped the leader.

That is the story, and here is the opinion: The Walleye is a real individualist among fishes, as fine a fish as swims, but I do not believe he is a fly-rod species. So you see, I'm talking against my own theory, am I not?

But wait!

The fact that I consider him completely unsuited to the fly rod is the very reason I think we should fish for him with light tackle!

Maybe that sounds completely wacky, but it won't when you examine my premise more closely. Let us qualify it. There are, of course, many Walleyes swimming our lakes and streams which are far too large for any but the super-expert to attempt on a fly rod. I realize, also, that the Walleye can hardly be considered a Panfish. However, his is a personality which has been acidly condemned—and highly praised, in different quarters. His status as a Game Fish has often been questioned, and many harsh words have been directed at him. For the purpose of rounding out our survey and discussion of Our Freshwater Heritage, and of coming to the defense of one of our better fishes, I have

chosen to include him. He is exactly the type of fish on which our new philosophy of more sport may be tried.

It is not my wish to enter into any argument as to which frying pan, if any, he will fit. Because of the fact that he is rather a character among fishes, a true individualist, he has all too often been snubbed by those who fail to understand him, and just as often crudely fished by those who admire him. Thus, as stated, he is a perfect guinea pig for us.

True, his behavior is erratic, but for that very reason we should learn to fish him—*at least a portion of the time*—in a manner to get the most out of him while testing and enhancing our own skill. Later in this chapter, we will discuss briefly what should be done about him at those times when light tackle is not practical. For the present, suffice it to say that our fisherman behavior as related to the Walleye has been most often unimaginative.

In order to work out our new fishing project, we shall have to consider a number of important angles. First of all, let us exclude the really large Walleyes. In most of our Walleye waters, the average fish will not run over three pounds. Thus, if we choose leaders carefully, all we can possibly lose is a big fish and some terminal tackle. Our more expensive rod will be safe, and we'll get as much satisfaction from the up-to-three-pounders as from the lunkers. The little Sauger will be just made to order, anyway, never too large for our tackle, so he is no worry to us.

Next, we must take up several items relating to the fish. We must see exactly what sort of fish they are, before we can set our philosophy department in motion. First, what kind of habitat is top choice among the Walleye tribe? Obviously, habitat always has a great bearing on the use to which we put our tackle.

Primarily, Old Bleary and his relatives are cold-water species. This is not to say that they are found *only* in cold water. It means merely that they seem to thrive, and battle, best in waters where the mean temperatures are fairly low. The native range

of these species is predominantly northern—the Hudson Bay region south throughout the Great Lakes and New England, and on down to Georgia and Alabama. The Sauger has the more limited range of the two. However, the cold-water preference seems to hold true, for in northern latitudes both fishes choose lakes, and in the South, streams.

Thus we could say that they are fundamentally lake fishes, or perhaps more correctly, fishes which need large bodies of water. For example, Walleyes thrive amazingly in the Great Lakes, and are perhaps more abundant there than in any other portion of their range. They have been propagated in staggering numbers at the Put-In-Bay Federal Rearing Station, the yearly output running, as early as 1900, very close to the hundred-million mark. In 1921, some three hundred million Walleyes were liberated from Federal hatcheries on the Great Lakes, and even this is a negligible figure compared to recent Walleye propagation.

Outside the Great Lakes, Walleyes do best in lakes several miles long, and in the large streams. The reason they prefer such waters is that they are not only Perch-like in their schooling habits, but they are also great travelers. I recall having read of Walleyes being caught as far as one hundred miles away from the spot where they were tagged, and after only a few months.

Large lakes and streams have another advantage for Walleyes. Old Bleary is a carnivorous fellow, predaceous in his habits. Feeding conditions are likely to be far better for him in the larger bodies of water. It takes a tremendous amount of forage to keep him fit and full, and to allow him to grow. His diet is almost exclusively piscivorous, to use a high-brow term, meaning that he's an avid fisherman himself. For that reason he cannot be considered an economical fish to bring to maturity. It has been recorded that specimens kept at the University of Minnesota eat from ten to twenty small forage fish each day. Total that up for a year, and add to it the fact that Old Bleary propagates his species

at the same amazing rate as his cousin, the Yellow Perch, and it is easy to understand why he must have room. It takes large spaces, not only to raise his own fry—computed at the average of some 25,000 or more eggs per pound of Walleyes depositing them—but also to raise garden truck in the form of forage minnows and crawfish, his staples.

The Walleye's insatiable appetite results in a rapid growth. Year-old specimens often reach a length of a foot. As proof of their voracity, the youngsters often begin trying to eat each other when they are no more than ten days old.

As previously stated, the Walleye is not averse to streams, but he likes them large, and in them he is most often found where currents are swift and waters deep. Small, sluggish streams have little appeal for him, and he finds dirty, muddy, or polluted waters positively repulsive. Deep water, over a clean, hard sand or gravel bottom, is his choice. Clay bottoms will do, and, in fact, he will tolerate mud-bottomed lakes. But he doesn't like them, and is often stunted in such environment.

There is perhaps no fish, with the possible exception of the Trout, which is as clean a feeder as the Walleye, nor does any other, with the same possible exception, lead as clean a life. He is extremely active, a swift, vigorous, powerful swimmer, and he matures into a solid, white-meated old fellow whose flesh, gastronomically speaking, is very nearly without equal. There are, indeed, few freshwater fishes to rival him on the table. It may be of interest to those not familiar with the Great Lakes region to know that he is one of the most important commercial food fishes in the area, and that millions of pounds of Walleyes appear each year in the markets, usually under the various Pickerel and Pike labels.

We are beginning now to see with what kind of fish we must deal. We might say a bit more about his feeding habits. He may feed on insects to a very small extent, and take a worm when it is

handy. He will come into the shallows to gorge himself on crawfish, but other fishes are his idea of real food, and he is a tough guy when it comes to these.

Few carnivorous fishes care to tamper with grown Bullheads, yet there is at least one record of a small Sauger whose stomach, when opened, contained a Bullhead with spines extended. The Sauger didn't seem to mind, yet one can well imagine the ordeal he must have passed through in making his meal!

This brings to mind a lake in Iowa several miles long, where I once fished. It is called Sand Lake, and is, I am reasonably certain, an artificial lake. Perhaps there are small forage fish in it, but I didn't see any. I did, however, catch some fine Walleyes—and some large Bullheads. Local residents said these were the only species in the lake. I've often wondered if the young Bullheads were a prime source of food for the Walleyes there.

That lake, incidentally, proves somewhat an exception to the rule for Walleyes, and fits our present purpose to good advantage. Although Old Bleary is essentially a deep-water denizen, Sand Lake is very shallow. I doubt if there is much over six or seven feet of water anywhere in it. Apparently its clean, hard sand-and-rock bottom is what he likes. Keep the shallow water of that lake in mind, while we go on.

Remember that we said Old Bleary should be a fly-rod fish at least a portion of the time. I would not suggest by any means that you always fish him thus. Many times the fly rod would be quite impractical, for, as you know, deep water presents somewhat of a problem to the light-tackle angler, and Old Bleary loves deep water. In fact, he frequently takes his ease in depths approaching a hundred feet, and spends a great share of his time in depths of twenty to thirty feet.

The one saving peculiarity of the Walleye is that he does not constantly stay in deep water. During spring and fall he is found inshore. Although his summer haunts may be very deep, toward

sundown each day he slowly works his way into the shallows to feed. That's where the minnows and the crawfish will be, and the old boy with the glassy stare knows it. The sand and gravel bars, the drop-offs at the edges of the weed beds, the rock ledges —those are the spots he'll be nosing around.

Now "nosing around" is the exact term, for the Walleye doesn't hurry this business. He is a lurker. He lies in wait a lot of the time, his wide, guess-what-I'm-thinking gaze ever alert for the minnow or crawfish *coming to him.* The darker it gets, the better he likes it. He will strike, of course, in the daytime, in his deep-water haunts, and often on windy or overcast days in the shallows. But he has built himself a reputation as a sand-and-gravel-bar feeder with a proclivity for nocturnal doings, and his real home is close to the bottom of a lake, or the bed of a stream. He seldom either feeds or strikes at the surface.

It seems, therefore, that all in all he presents some rather tough problems for any fishing philosophy we might concoct which relies on a fly rod. Remember the odd battle he put on in that experience I related? That's typical, and is exactly the reason his gameness has been so often questioned. His biggest defense is to sulk. He will go down and stay and dare you to pry him loose. When you succeed, he will often come reluctantly, but without any real fireworks. His sullen, stubborn attitude is typified by the expression on his glum countenance. Then, when you get ready to net him—look out! I dare say more tackle has been smashed by licked Walleyes than by any other freshwater fish. He will dash away with the power of the very devil in him, snapping your line or leader with ease.

In addition to all of these problems, he is a slow striker. How one could possibly dream up a fish less suited to light tackle, I cannot imagine! But that's just how we're going to find some really different fishing. We will not only fish him with a fly rod —we'll actually use a fly, a good-sized streamer with a No. 2

hook, or, as a substitute, a small spinner, with or without fly, pork rind, worm, or minnow. *And*, we'll fish him after dark!

Mister, that's fishing! In my opinion, it is one of the most difficult of light-rod sports. Night dry-fly fishing for large Brown Trout is tough enough, when you can only wonder where you're casting and then must strike at the splash of a fish. But as a rule, in this after-dark Walleye fishing, there won't be any splash. Your lure will be too far under the surface.

Let's have a try at it. We have had, let us say, a day of Bass, Bluegill, or Pike fishing. After a good dinner we're still not ready to turn in. The evening is cool. There's no moon. We have noted, during the day, a gravel bar at the far end of this large lake, where the water in places is not over three feet deep. Its maximum depth is about ten feet, and there's a rugged drop-off after that. Weed beds lead up toward this gravel bar, but, once we're at the bar, the weeds disappear. We have good, open, unobstructed water for some distance.

By flashlight we set up our outfit, down at the dock. If we have one of those drawn-steel rods, we'll use it. We'll attach a leader of some three to five feet, a level one, testing about five pounds. To the end of the leader, we will attach a six-inch wire leader. I have some light ones here, some of them straight, semi-stiff wire, some flexible. They have a small swivel on either end, and a fly or spinner clip. They'll be just the right weight, in this still water, to take our fly down to the proper depth of from three to ten feet, depending on how quickly we begin our retrieve.

Before we went in to dinner, while there was still daylight, we measured off forty-five feet of line, and tied a small piece of yarn about the line right at the reel. During the afternoon, we measured our gravel bar, using several angles from which we expect to fish. We did this by making experimental casts. Forty-five feet will just about cover the bar from these spots, without getting us hung up on shore. It will give us enough leeway so we won't

have to worry. During the afternoon, also, we had thought of the fact that there would be no moon—so we had planted a couple of stakes in the shallows, to locate from in the total darkness. We don't want to use our light, once we're down there, except down in the bottom of the boat, where we may need it to show us how to unhook a fish, or untangle a line.

Let's experiment first with a regulation salmon fly streamer. Now these may not do the trick. If they don't, we'll change to the old stand-by, the spinner. No matter how you fish Old Bleary, there's no better lure than a spinner, to which is attached either a large streamer fly, or a hunk of live bait, or pork rind. If, however, he'll take the fly alone tonight, casting will be that much easier because of the light lure.

How about me? Well, my outfit is set up, but we'll just fish one at a time. You try it first, then I'll follow. That way we'll not tangle lines. If we happen to have good luck in the three-foot water close to shore, we'll go far around the gravel bar, beach the boat, slip into our waders, and edge quietly out within casting distance of the feeding fish.

It's possible, of course, that we may not find fish at our stand tonight. Locating Walleyes is the hardest part of fishing them. They move about a good deal from day to day, so that you cannot be sure they'll feed twice in the same spot. However, if we can find them in this shallow, open water we'll be in for some real sport. Ordinarily, you see, if you simply keep alert when fishing Walleyes in deep water, you seldom lose a fish. They take your bait slowly, giving you plenty of opportunity to set the hook. Thus, you usually can set it deep, and there's little gamble after that, if your line and leader hold, for the entire battle takes place on a tight line beneath the surface. Shallow water is different—as I hope you'll soon see.

All set? Okay, start the motor and run us down there. You can use the light now, but when we locate our stakes, better cut

both light and motor. There, straight ahead, is our first locating point. That's it. Cut the motor and let her drift. All right. Steady. I've got the stake. We'll be set perfectly in a moment.

Now then, as quiet as possible. Keep low, too, for the old fellow sees mighty well at night. Don't get your silhouette against the brighter horizon. Think this is too much precaution? Well, perhaps, but the cautious, patient fisherman, who figures all the angles, is the one who brings home the big ones.

Begin casting now, by feel. Keep feeling for that tiny piece of yarn. When you hit it, don't take out more line. What's that? This is spooky business? Yes, indeed. The old lake looks hungry, eh, what you can see of it? This is a different sort of fishing thrill, though. You see, we've come far enough along with our fly-rod work now so that we should be able to work with our eyes closed. A moon would, of course, be a nice idea. Moonlight fishing really is good sport. But pitch-dark fishing is *more* sport, and it takes real expertness.

That's right—cast and pause. Let your fly sink clear down. How'll you know when it's down? My friend, you're doing the fishing. That's your problem. You're not likely to get snagged here, anyway, but you'll have to work out the correct measurements yourself. That's how you get to be an expert. I'm glad you used a leader somewhat lighter, with that bamboo rod of yours. It'll snap if a really big one takes hold, and thus save your rod and your nerves.

What's that? You think your fly is down? All right, retrieve slowly. Very slowly. Remember, when you fish a fly without a spinner for Walleyes, particularly after dark, you should cut down the speed of your retrieve. Give him every chance to see the lure. Give it life, of course. Try to remember how it looked in the water, in daylight. Perhaps it is bad form to work your rod tip instead of your line, but do it anyway. Give it short, quick lifts, then let the fly sink. Then, a long, slow sweep, retriev-

ing line with your left hand. Don't forget to touch your automatic now and then. A lot of loose line coiling about you in the boat is a nuisance. Here in the dark, it may be the cause of a lost fish.

You had a bump? Hang tight, friend! Maybe Old Bleary made a slow pass at your fly. There! Hit him! Hard!

Good! You've hooked one. Keep calm now. Let him run. Let him—ha!—you can't stop him! What'll you do? That's also your problem, my friend. You can't see anything? Of course you can't. But *he* can! You see, we're giving him every advantage. There, look at that! Listen to him jump!

You thought I told you Walleyes wouldn't jump, that they'd bore down and sulk? Well, I did. But I saved this as a bit of a surprise. You see, he's in shallow water, and he doesn't like it. He wants to get down, only there's no place to go. A Walleye will give twice the performance, in terms of sport, if he's hooked in shallow water. He has to make up tricks he doesn't ordinarily use. Recall, too, about his sensitive air bladder, which bloats him when he comes up out of deep water. He's absolutely at his best in the shallows.

Just hold on. You're doing fine. Let him run. Let him jump. Now then, he's tiring. You see, this is a far more active battle than he ordinarily fights. Bring him in—but watch him. Be ready to give him line. When the net touches him, he'll come to life in a flash. Don't let him snap your leader. What's that? You want the light to net him? No, sir. You have to net him in the dark. And you have to do it single-handed. I didn't come along to net your fish for you!

There, that's excellent. You got him on the first scoop. You were lucky, though. If you'd missed with the net, he'd have had you in a mess. He could rip that leader apart in a split second, the position you were in.

Get him over here in the bottom, and I'll give you a light to

unhook him. Watch those knife-like gill covers, and that razor-sharp dorsal fin. Isn't he a beauty? Go nearly three pounds, I'll bet.

Of course, our boat is somewhat of a handicap. Wading would be easier. Perhaps we'll try it one of these nights. We should move very carefully, though, when wading, and after we've taken position, we should stand perfectly still, even while playing a fish.

You understand, of course, that there are many other ways in which Old Bleary can be successfully fished. I simply feel, as I've said many times previously, that we who are all-around fishermen should always look for the *different* way, the means to lend variety to a season's fishing. Luckily, in most regions, we have several species to choose from at any given moment. Thus, my suggestion for after-dark Walleye fishing gives us something we don't ordinarily get, and leaves the other species to fill in other sets of circumstances. The Walleye, with all his faults, has something really different to offer, if and when we can take him under such circumstances, and with light tackle. The darkness tries your skill, your knowledge of both your equipment and your sharp-finned opponent; and shallow water forces this recalcitrant devil to get up and fight like a true warrior, instead of sulking over the matter.

Let me repeat that the Walleye, though he is fished most often in deep water, is not, in my opinion, at his best there. By catching him whenever possible and however possible out of his natural depth, and by placing ourselves in the exasperating, unnatural element of evening darkness or dim light, we set up a combination wherein anything can happen. The whole situation is alive with opportunity for rare sport. We might note, too, that early morning and after midnight are good bets.

Now let's review briefly a few facts about standard Walleye methods. As noted before, the spinner is generally conceded to be one of the best of all artificial Walleye teasers, either with or

without various fly and bait combinations. And the most popular method of fishing spinners is by trolling. We can adapt light tackle to trolling, of course, if we choose a rod which will stand that kind of usage. Without question, trolling has a lot to recommend it. It is a means to the end of getting a lure down deep, and doing this much better than it can be accomplished by casting. The lure, in any case, should run just barely off the bottom, and should travel slowly. Using a spinner, or spinner combination, we should move it just fast enough to turn the blade.

Of course, we can also still-fish for the old codger, when he's down deep, but I cannot personally recommend the sport. As a rule the fish simply will not fight well. However, if you go out from your camp sometime strictly for the purpose of meat-fishing, then you can't beat the still method, using lively minnows and fishing them deep.

In the North, the Walleye is far easier to catch at any season than he is in the South. This is because northern water temperatures allow him a wider range of depths. He may often be found in the shallows, in cold water, but seldom does he venture into them where the waters are warm.

During the hot summer months the Walleye is often hard to locate. For that reason many fishermen have come to think of him as a spring and fall fish. In the fall, particularly, he is unexcelled. When the first frosts turn the leaves, and clouds go scudding across lowery skies, Old Bleary is in rare form.

Thus, trying for variety over an entire season, we might conclude that it is a good idea to concentrate our daytime fishing upon him during spring and fall, especially if we have the opportunity to fish other species during the summer. In many regions it is legal to take him before other seasons open, and also to take him later, when other seasons close. Nippy-weather fishing has a flavor all its own!

As has been said, I am not in favor of attempting to fish Wall-

eyes entirely by means of light tackle. The bait rod is more practical for all-round trolling, for it can handle large, deep-running lures; and it will also account for those lunkers who lurk at great depths. Drifting, using live bait, is a good idea, too. Once you get a hit, stick to the spot. This, of course, applies to any method of fishing Walleyes or Saugers, for they hang pretty closely together.

Probably it is true that live bait is the best all-purpose lure for these fishes. Obviously, if we can get them to take streamers, they will also take minnows. Artificials are simply easier to handle, and there's a certain amount of satisfaction in taking fish on them. One of the main reasons live bait is at the head of the list for Walleyes, in the opinion of a majority of fishermen, is that the Walleye is a cautious hitter. He likes to mouth a bait, and to strike slowly. We should remember, therefore, not to set the hook too quickly when we use live bait. Many fish are lost for this reason.

During the daytime, in summer months, Walleyes which refuse bright spinners may often be taken by the use of live bait. You will hear it stated emphatically that Walleyes stop hitting in summer. This is far from true. In most instances, the fisherman has merely failed to locate them. The Walleye feeds throughout the year, and may be taken summer or winter if you go deep enough, and search long enough for his hide-out.

River fishing for Saugers and Walleyes is made to order for drifting, and also for shore fishing by letting a spinner down into deep races, such as those found near dams. Here the light rod is perfectly adapted, and results almost certain. Split shot, to take your spinner or fly down to proper depth, is no handicap, for we don't have to cast. We may simply drift the weighted spinner into and down through the current, paying out the desired length of line, then letting the swift current jockey it about. In this type of fishing, live bait, of course, is also excellent. And incidentally, if you live where lampreys are easy to acquire, they're killers.

Old Bleary has a hard time refusing a juicy lamprey. And don't forget the crawfish. It is just as good.

If you like to eat fish as well as catch them, then you are destined sooner or later to become a Walleye fisherman. And in that case you'll likely end up living in one of the northern states. In Minnesota, for example, for there the Walleye reigns supreme. I believe it is substantially correct that Minnesota has done more in the propagation of Walleyes than any other state, and Minnesota's fishermen do a real job of catching them, too. In such regions, they are the fish which everybody angles, the stock in trade of both the expert sport fisherman and the casual cane-pole meat fisherman.

One thing Old Bleary gives you, if you go after him with imagination, is a different kind of fishing thrill. It is the sort of thrill which fits his reticent, belligerent character. There's only one time when he loses that dog-in-the-manger attitude. On the table he makes a peace offering worthy of the most choosy gourmet's attention!

CHAPTER 10

A Dash of Salt

CERTAINLY YOU WILL have gathered, by now, that fish and fishing exerted a rather important influence upon my thoughts and existence at an early age. It was worse, I imagine, than I have pictured it in these pages. It seems that I was forever pestering my mother, my father, my various relatives, with questions about wild life in general and fishes in particular, and that I carried things to such an extent that the less understanding of my elders became, at times, somewhat disgusted with me.

Later, perhaps because it happened that I followed the line of least resistance, I attained to the status of family expert on affairs of the outdoors. And still later, when the urge to write about such matters, along with the necessity for making a living, had pushed me into writing as a business, I managed to disgust

most of my relatives even more seriously by continually talking about fishing, and just as continually *going* fishing.

Now, however, I had them at a disadvantage. "Don't you *ever* get sick of fishing?" they'd ask rather irritably.

Ah! I had an answer for that. "Purely field research," I would say. "You see, I have to fish now. That's part of my job." The sort of smile I used on such occasions didn't help family relationships even a little bit.

Looking back, I rather sympathize with that family of mine. If it happened that I went to the village store with my mother, I insisted on poking at the "blind robins" and the "bloaters," as the baskets of smoked fish were sometimes called. I asked endless questions. What kind of fish were they? Where had they been caught? Who had caught them? How many had they got? What had they been caught on? Were they as good to eat as Bullheads? Did any of that kind of fish live near us? And so on, endlessly.

Those few times when we rode to one of the larger cities with a neighbor, in order to do some special shopping, it was necessary, by threat of due consequence, to shy me away from any fish market I happened to spy. I would insist, so I am told, on flattening my nose against the glass of showcases, and scrubbing that runny protuberance back and forth along the length of the case, leaving my mark as I went, while I stared, completely hypnotized by the glassy-eyed individuals who stared back at me from their beds of ice within.

However, this exasperating action on my part had its advantages. I learned some useful facts, let me tell you—facts which were to stand me in good stead later in life, when it became necessary to face the world on my own. One of them was not to purchase items for which you had not the wherewithal to pay!

It came about in this manner. My mother had allowed me to go with her on one of those rare big-city pilgrimages, and, while

she looked to her special grocery list in one of the larger markets, I was more or less left to my own devices. This pleased me greatly, for I had discovered a most amazing array of strange fishes down at the other end of the store. One kind of fish in particular fascinated me. There was a big pile of them in the case. They were shaped quite like the Rock Bass I knew, more slender in the head and with a smaller mouth, but such minor differences didn't impress me.

They were a very pale silvery color, with narrow, gray-brown stripes running lengthwise along their sides. To me they seemed extremely desirable. I don't recall having wanted particularly to taste them. I merely thought it would be nice to look at them close up, this meaning, of course, to handle them. They were something quite new to me. The desire for ownership overpowered me, since the glass between them and me would not allow me physical contact.

I said to the clerk, who had told me once to get my nose off the glass, "I'll have six pounds of these."

He paid not the slightest attention. This only served to spur my determination. I continued to insist, until it was impossible for him to ignore me. I further told him that my mother had instructed me to buy them, and that he had better do as I bid.

That did it. Soon I had the big package in my hands. I carried it over and placed it carefully and quietly in the box with Mother's groceries, and the clerk waited around until she was through, then approached her for his money. It seemed to me suddenly that now would be a most opportune time for me to disappear, which I did. The ensuing bewilderment and embarrassment on the part of my mother, and the argument with the clerk, added up later to a most impressive lesson, administered to me vigorously by my mother.

There was one small fact, however, which I could hang onto and utilize for consolation. I had learned that those fish were

White Bass, and you may be sure I recognized the species the next time I came across it.

Oddly, the market man had told me the correct name for the fish. So often a species is known, in the markets, by names other than the correct one, that I have never ceased wondering how it could be that a fish came to be called, commercially, by its correct name.

The family to which this excellent fish belongs is one of the largest and most important fish families in the whole world. It contains over four hundred species, and is divided into some seventy-five genera. Again, oddly, almost the entire family is marine, leaving us very few of its numbers to place categorically among our freshwater fishes.

Thus it may be said with some real meaning that those few we do know as freshwater species have salt in their veins. They are the dash of salt, so to speak, which livens the tastiness of Our Freshwater Heritage. The family is that of the Sea Basses, called scientifically *Serranidae*,* and the White Bass of our fresh waters is the little cousin of the famous Striped Bass held in such high esteem by the salt-water fisherman.

There are, in fact, three worthwhile species of the family which inhabit our waters. Regrettably, each of them is quite restricted as to range, although each is extremely important to certain groups of fishermen in those areas where the species occurs. They are all such excellent sport fishes that those of us who live outside their ranges must stand in envy of our brother anglers who have the opportunity to fish them. However, with transportation facilities in our country making all places easily accessible, it is very possible that many of us may have the opportunity to connect with these salty-blooded fellows now and then, and for that reason we shall have a look at them in this chapter.

* Remember that in some older references this is called the White Bass family, with scientific name *Moronidae*.

The three species are grouped under two different genera, as follows:

1. Genus *Lepibema*
   The White Bass—*Lepibema chrysops*†
2. Genus *Morone*
   The Yellow Bass—*Morone interrupta*
   The White Perch—*Morone americana*

I regret that my actual fishing acquaintance with all three of the species has been slight. I have, however, had certain direct-line contacts with them, and a good bit of secondhand knowledge passed on to me about them. We can, I think, get a pretty good picture of their relationships to the fisherman, by combining the two kinds of knowledge. So let us get after them, one at a time.

THE WHITE BASS

Somehow I feel, when we begin discussing each of our fishes, as though we ought to look first at their physical characteristics, so that each of us may have in mind exactly what fish we're examining. This, I believe, is especially essential in talking about such fish as the White Bass and his cousins, for they are well-known to only a small percentage of our fishermen.

Take a close look at this fellow, whom you may know by the names "Golden Bass" or "Silver Bass." Our specimen is about a foot long, and he weighs roughly a pound. Others of his kind may grow larger, up to eighteen or twenty inches, and weights of two or more pounds. In fact, White Bass have been taken in western Michigan which crowded four pounds, and in Texas up to five pounds, but these are the exception. Most often you will see them in the markets—and I refer particularly to fish taken

† Even in some fairly recent references, the genus to which the White Bass belongs is still called *Roccus*, and his name *Roccus chrysops*.

from the Great Lakes—not over ten or twelve inches, or roughly the size of big Bluegills or Rock Bass.

This specimen of ours is silvery-colored, and his belly has a golden tinge. His most obvious brand consists of the narrow, dusky brown or gray longitudinal stripes running along his chunky body. Usually you will be able to count five lines above the lateral line, one along it, and several—three to five—somewhat interrupted ones below it.

Keep these characteristics in mind, now, for there is at least one other fish with which the White Bass may at times be confused, and that is his cousin, the Yellow Bass. When we look at him, we will point out the most obvious differences.

Note that our White Bass specimen is somewhat Perch-like—as also are his relatives, the Yellow Bass and the White Perch—in that he has the same dorsal fin arrangement. That is, the fin consists of an anterior and posterior portion. The posterior portion has one spine, and thirteen or fourteen soft rays, as against one spine, twelve soft rays for the Yellow Bass. And note specifically that the two portions of the dorsal fin in this White Bass are not actually *joined together* at the base. We're going to need this information later on.

Now drop down to his anal fin. Look carefully at it, too. It has three spines, and *twelve* soft rays. I spoke of this fellow a moment ago as being chunky. His body seems to carry a lot of weight for its length. It is deep, and the back is highly arched. This makes his head seem small and much depressed. Also note that his under jaw projects noticeably beyond his upper. That, I believe, just about completes his general description, and will suffice for our needs. This fellow has been the subject of much argument, in certain quarters, as to whether or not he is a land-locked form of a true salt-water species. There may be some basis to the argument. Certainly he strongly resembles his larger relative of the surf, the Striped Bass, and is, in fact, often erroneously

called a Striped Bass, or Striped Lake Bass. Possibly long ago he came out of the brine and managed to adapt himself to fresh water. As we know him, however, he is definitely a freshwater fish, and does not ever occur in salt water.

I personally think he is one of our most interesting fishes. My opinion is based on one of his most exasperating faults. To wit—he is a truly undependable individual. Primarily, he is a fish of the large lakes and streams, an excellent food fish, and just as highly regarded in the Game Fish category. But his habits are exceptionally erratic, so that catching him is always a gamble with bad odds. When you fish White Bass, you are usually in for either a day of amazing luck—or nothing.

First of all, he runs in schools, often very large schools, and has roving, unpredictable habits. For several days he may be found in the still water of large lakes or large, open rivers, feeding right at the surface. You can actually see his horde playing around. They go chopping their way through a school of small Gizzard Shad, or Minnows, like ruthless invaders on the offensive. You think, "Ah, now today I'll make a killing!" Very likely you will, for at such times the White Bass will hit anything that moves. However, if it happens to be a bright day, you may discover him to be extremely shy, in which case it is very possible that you'll come home empty-handed.

Next day, perhaps it is cloudy and dark. It is what we call "muggy" weather, warm and overcast, and it may even rain. Suddenly you find that he has apparently lost that extreme shyness. You come home highly successful.

The next day you go out again. Where has the salty little fellow gone? He has completely disappeared. You search high and low for him, trying all depths—but you don't get even so much as one strike. Undoubtedly, he has taken to the depths, and this, for him, may mean really deep water. Whether you merely fail to locate him, or whether he simply refuses to bite, is a question I

cannot answer. I only know that the White Bass is truly an unpredictable fish. And I do know, too, that he is considered a rather fin-loose fellow. Fishing out in the middle of the lake is just as good a bet as near shore. He roves about wherever the feeding is good. In the large lakes, he may be positively superabundant in one section on one day, then turn up the next day several miles away. One tagged fish set an exceptional distance record over a short period, having been picked up 140 miles downstream from the point of tagging.

If you like the gamble, then you'll enjoy fishing White Bass at any time, and you may do so with success in several sections of the country. His over-all range runs from Minnesota and Wisconsin eastward through the Great Lakes, where he is rather abundant, on to New York State, and south to Kansas, Tennessee, and a portion of Arkansas. Except for possible plantings, he does not occur east of the Alleghenies. He is definitely a northern fish. But the odd part is that he has been tried in Texas, and has done amazingly well, so that he now furnishes a wealth of sport in certain lakes to Texas fishermen who otherwise would not have an opportunity for much sport fishing. They consider him a miracle fish. Thus we find two widely separated areas where the White Bass fishing is exceptional—Texas, and portions of his northern range, particularly the famous Wolf River region in Wisconsin.

You see, there is one habit of the White Bass which gives the northern enthusiast a real break, and cuts down appreciably on the gamble involved. That is his habit of running up available streams in tremendous numbers, to spawn in the spring. These White Bass runs are what has brought fame to the Wolf River.

As a matter of fact, the abundance of White Bass in any locality is entirely dependent upon whether or not the body of water involved is correctly situated to allow him to spawn properly. Although this fish is amazingly prolific—I believe one lab-

oratory count showed 480,000 eggs in a two-pound fish!—he requires a lake or large-river habitat which has satisfactory spawning streams emptying into it. In the spring he takes to the swift waters of such streams, travels until he finds a suitably rocky place in quiet water. Here the eggs are deposited, and left, while the adult fish head back to the big water again.

This spawning habit handicaps hatchery propagation of the species, but, happily, adults are so prolific that a very few—even as few as a dozen—planted in a large lake with spawning facilities and abundant forage, will within a short period increase unbelievably.

I believe we might consider some of the large artificial Texas lakes, and the Wolf River in Wisconsin, as being typical examples of the two best methods of White Bass fishing. The Texas kind, in general, is a season-long affair, for there, in lakes such as Lake Dallas, and in the chain of flood-control lakes along the Colorado, such as Lake Buchanan, the White Bass has truly been a miracle fish. From very meager plantings, tremendous numbers of fish have propagated naturally, so that White Bass fishing in Texas has become known somewhat like pheasant shooting in South Dakota.

Trolling is the accepted method in Texas, for the lakes are large, and a motor helps to cover a lot of water until a school is located. Small deep-running plugs, or spoons, are favorite artificials, and of course live minnows are a natural. At times, it is true, the White Bass will seem quite selective in his tastes, turning down one small diving plug in favor of another, but as a rule he is not too choosy, especially when you catch him on the feed.

For our purposes, he is a perfect species, for he'll take a small wet fly, particularly of the streamer variety tied to represent a minnow, and, once you locate a school, if you put on a small split shot and run the fly well down, you can cast from a slowly drifting boat and take your limit in short order.

I say that he is a perfect species for us, with our light tackle, for another reason also. He comes in a good fly-rod size, and he utilizes that flat-sided build of his to keep turned away from the pull of the rod every minute of his battle. Thus his didoes are reminiscent of the big Bluegills, but of course, as he attains a maximum size to far outweigh that little smart aleck of a fish, he is capable of giving you a real tussle on a long, light rod.

I have witnessed the taking of White Bass around Port Huron, Michigan, by deep trolling, but I cannot say much for the method. Most of the fishermen are purely and simply out after fish. They troll, but use an extremely heavy lead, in order to get down deep enough to connect, and when even a two-pound fish is hooked, I've always felt sorry for the fish, having to fight both a fisherman and a hunk of lead. This becomes pretty much a matter of simply hauling them in.

I am better acquainted with the Wisconsin fishing than with the others, and to me it has a certain thrill all its own. There is something rather exciting about waiting for a run to start, timing matters so you'll be there on the proper day. Along in late April, or on toward mid-May, you watch the temperature and guess when the fish will start to move. About the 20th of May will be "it." You try it one day without so much as a passing strike—then perhaps on the very next the word goes around, "The White Bass are in!"

Fishermen from many states meet along the Wolf River, then, and it's difficult at times to find room for your boat, or at least to row it after you're once set. Under the bridges, at the entrances to other streams or to lakes, and in the deep channels—there's where the fish will be. The current of the river is swift, and you have to have your wits about you, in handling both your boat and your tackle.

Either drift-fishing, with minnows, or sticking with a deep hole where you've hooked a fish, will get results, and of course the

various small spinners and wet flies, with shot to get them down into the current, will take fish just as well. Mister, when you hook a good one, and work his flat sides against that current, both you and your tackle will know you've caught a fish! *And*, the wonderful part of it is, you *do* catch fish—everyone does. When the White Bass run in earnest, no one goes home empty-handed!

Personally, I am of the opinion that interested sportsmen might influence their Conservation Departments to do a great deal more with the White Bass than has been done to date. Added to its excellent eating qualities, the facts that it propagates itself, once started, and that it takes artificials as readily as live bait, and gives good battle, make this a fish to consider for large bodies of water which have the proper requirements, and which otherwise represent poor fishing. Though I am no expert on the subject, it would seem to me that some of the Pike lakes, which already contain forage fish, might be right down this fellow's channel. He is not cannibalistic. Therefore, as he is so amazingly prolific, his fry might conceivably make good Pike food, and the present Pike forage could be utilized by him.

Talk it over with your conservation-minded friends. The fishing in the Southwest has surely been tremendously influenced, late years, by the discovery of the White Bass. Perhaps a lot of us are missing excellent sport that could be ours, if this fish received more official attention!

THE YELLOW BASS

Now here is a fish which has been puzzling me for years. If we were to give it a title of some sort, I believe the most apt one would be "our most neglected fish." In preparing material for this book, I felt it would be a very good idea to review the opinions of others, not necessarily to the end of *agreeing* with them, for I have no doubt there'll be many items in this writing open

to argument. But I did think that a review, particularly of magazine writing relating to fish and fishing during the past few years, would point toward a summation of the average ideas on our subject.

To that end, I employed a research worker to leaf through hundreds of back issues of the six or seven most important outdoor magazines, and to jot down items of interest regarding each fish we intended to cover. Now I will not claim to have examined every issue of every magazine over the years. I did, however, find that I had certain copies dating as far back as 1930, and altogether there were very nearly five hundred issues involved. Do you know that out of that great mass of writing, we found not one full-length piece about fishing for Yellow Bass! In fact, we could find absolutely no mention of the fish, with the exception of one pen drawing, with brief caption, and one short paragraph answering a question about the term "Barfish," a name often applied in the South to this fine fish.

The reason I want to go into detail about this lack of publicity in behalf of *Morone interrupta*, is that I believe you might find it interesting, in your study of fish and fishing, to make a project out of attempting to gather information about this fellow. Let me tell you the rest.

Some few years ago I stayed for a time in the Deep South, in Mississippi, Louisiana, and Alabama. Perhaps it happened that I contacted the wrong fishermen—I don't know; but I could not seem to find anyone who knew the first thing about Barfish, White Bass, Striped Bass—names by which the Yellow Bass often goes. Oh, I did find people who had caught them, and who told me where to go for them. These were mostly cane-pole bait fishermen, however, who had little regard for the sport involved.

I was most curious when I began this book, to see what I would unearth. I waded through numerous books, scientific and other-

wise, wishing to see what opinions other writers had about this most interesting fish. Secretly, I suspect that they had found themselves in about the same predicament. One or two of them had a few words to say in praise of the Yellow Bass, but specific information was sadly lacking.

What makes this situation appear so odd to me is the fact that the Yellow Bass is by far a better battler than his silvery-sided cousin. In many sections his average size will run somewhat larger, and he seems to have a more pugnacious attitude.

I want us to have a rather close look at him, because I suspect that some of the apparent lack of interest in him stems from the fact that he is often confused with the presently more popular White Bass. It is not at all difficult to distinguish between them.

First of all, the Yellow Bass is distinctly a southern fish, concentrated for the most part in the lower Mississippi Valley. The fact of the introduction of White Bass into the South has added to the confusion, for that one is by nature a northern species. The native range of the Yellow Bass might be designated as north to about St. Louis, and into some of the rivers as far as Louisville or Cincinnati. He has, however, made his way into certain waters of upper Indiana, and is known slightly as far north as southern Minnesota and Wisconsin. I believe we might reasonably say that the Yellow Bass is at heart a Louisiana fish, for he is at least best known and regarded in that area. I do know that the fish has been casually handled by Conservation people, and understand that it was tried in certain Pennsylvania rivers. Just what the outcome was, I am not aware.

If you had the opportunity of viewing the two species side by side, you would readily see a great difference in them. The easiest way to separate them is to look at the dorsal fins. The White Bass, remember, *does not* have the spinous and soft portions of the dorsal actually joined. The genus *Morone,* to which

the Yellow Bass and White Perch belong, *does* have these two fins definitely joined. Thus, we see that the White Perch and the Yellow Bass are much more closely related than are the two Basses. This will hold true, too, in the general shape of the fish. Physically, the Yellow Bass is quite similar to the White Perch.

Looking at the dorsal fin again, you will discover that the spines of the Yellow Bass are very sharp and strong, much more so than those of the White Bass. In addition, the *anal* fin of the Yellow Bass has three spines and *nine soft rays*, as compared to three spines and *twelve soft rays* for his paler relative.

Let's look now at his color. He is a very brassy yellow—much more so than the White Bass—and his vertical fins are noticeably tinged with greenish or bluish tones. Usually he will show seven extremely distinct *black* lengthwise lines along the body. Those which occur below the lateral line are interrupted—that is, split. This interruption occurs rather far back, about even with the first spine of the anal fin, and the posterior portion of the lines alternates with the anterior portion. From this distinct arrangement of longitudinal lines, comes his name, *interrupta*, as you can readily see. I believe the color plate we have used is an excellent likeness, and will give you a very good idea of the fish. Note, too, what was said previously about the projecting lower jaw of the White Bass. This yellow fellow has almost even jaws.

His general appearance is a little less in body depth, more slender, than the White Bass, and he has a very large eye. His back is greatly arched, and his head depressed, as in the White Bass, but the greater depth of the White Bass tends to exaggerate those characteristics.

Now let's see about his habits. Here, oddly, we find him almost identical to the White Bass, so much so, in fact, that when the two species occur in the same waters—which often happens—they are close competitors, ecologically, with results often detrimental to one species or the other. The detriment, I believe, would be

found imposed most generally upon the White Bass, for I think it may be safely stated that the Yellow Bass has quite a good deal more spunk than his cousin. He is a bold, forward individual, ruthless in his feeding habits.

If you have ever seen, or read of, the way in which salt-water Bluefish slash their way through a school of small fish, killing for the sheer joy of it, you will understand what I mean by the term "ruthless" in regard to the Yellow Bass. His manner of hacking his way, in schools, through a school of frightened shad or minnows, is very similar.

Like his relative, he is essentially a lake fish, or a fish of large, open streams. He is a better food fish, and as a Game Fish he'll beat both of his close kin. He does give us one break that the White Bass does not. Often, during the early part of the season, he schools on bars, where the water is shallow; thus he may be taken more easily on light tackle than the White Bass, which usually keeps to the deep water.

He differs slightly, too, in his spawning habits, for while the White Bass will ascend extremely swift streams, negotiating tough currents and rapids, it is doubtful if the Yellow Bass ever attempts this. Perhaps it is because the rivers and smaller streams of his native habitat are naturally more sluggish. At any rate, he runs up these slow, deep, sluggish streams during spawning time, but does not usually attempt to reach their upper courses.

I should not attempt to suggest to you any new, or novel, methods of fishing for him, because my acquaintance with him is far too slight. Although it has been rather well established that he is partially insectivorous in his habits, feeding a good percentage of the time off May-fly larvae, he will take minnows best as live bait, and you may fish for him, in general, exactly as you would for the White Bass.

Trolling is an excellent idea, and, for the largest specimens—running up to five pounds—plug-casting will take fish. However,

he definitely gives his best on light tackle, and he may be quite consistently taken on small spinners or good-sized wet flies, preferably the lighter patterns.

I do want to mention one other matter, for it is quite a compliment to him, and is also good material for a fireside argument. There is no question in my mind but that he will give you a better battle than a Black Bass of like size and habitat. You may take that, if you choose, with the grain of salt distributed in the little fellow's veins, but, until you have caught the Yellow Bass under conditions where he has a good chance to show you what he can do, keep an open mind on the subject. He's likely to alter your opinion so that it coincides with mine, once you contact him directly!

By all means, if you find yourself in Yellow Bass territory, track him down and have a go at him. He is a Game Fish worthy of more publicity than has ever come his way, and you'll find fishing him quite a different freshwater thrill.

THE WHITE PERCH

Now here is a fish who gives real meaning to the title of this chapter—"A Dash of Salt"—and who, as any angler of eastern experience will tell you, also puts an exclamation point to the term "Game Fish," once you experience his mad scramble at the end of your line. Like his relatives, he, too, is something of a mystery fish, and has been the source of much argument over the years.

Let us not for a moment confuse this briny-blooded little gamester with the true Perches. As previously stated, he is a member of the Sea Bass family, and is closely related, in fresh water, to the Yellow Bass. His shape, like that of the Yellow Bass, is somewhat Perch-like, and the dorsal fin arrangement the same as with the Yellow Bass—that is, the two portions are joined to-

gether. However, the spines of his dorsal are lower, and not as strong as those of his southern cousin.

It is unfortunate that the White Perch persists in a life so close to salt water, for he thereby robs the majority of our fishermen of some excellent sport they might otherwise have. You see, he is strictly an eastern fish, a fish of the Atlantic Seaboard. He ranges from the St. Lawrence down the east coast at least as far as the Carolinas, and it might be said that he is at heart really a fish of salt water, rather than fresh. He is, as the big-word people say, "anadromous," which is to say that he lives in salt water and runs up freshwater streams to spawn. Yet he is not entirely anadromous, for he apparently thrives also in fresh water the year around. In fact, he doesn't seem to care much what his habitat happens to be, and it seems to me that such fishes, able to adapt themselves to salt, brackish, or fresh waters, are particularly interesting. How do they manage it? I'm always reminded of what would happen to us, if we attempted to utilize salt water for drinking purposes, and also of what happens to strictly freshwater fishes, when they are placed in brine. We, and they, simply die, and quickly. Yet little old *Morone americana* gets along very well wherever he happens to be.

There may be some small question about this, especially in regard to his propagation. I am not sure that the matter has ever been scientifically settled. It was thought at one time that White Perch transplanted to fresh water, and landlocked there, would eventually die out, unless opportunity for revitalization from salt-water sources was made possible. That is, the adult fish themselves would remain hale and hearty in their new freshwater home, but they would cease to spawn.

I have talked to numerous fishermen, who claim this is nonsense, that White Perch in New England lakes have been landlocked there for as long as they know, and continue to thrive and multiply. On the other hand, an experiment was tried some

years ago of planting White Perch in a lake in one of New York City's parks. The fish were fully protected, and their environment apparently was excellent, yet they did not reproduce, and the strain eventually died out. I recall also a short paragraph from Ray Bergman's writings, in which he tells how large White Perch grew when adult specimens were taken from brackish streams near the coast and transplanted to an inland New York State lake. He added, however, that he had never seen any evidence of self-propagation among them.

The whole question is a rather academic one, and of no special interest to us here, except for its argumentative aspects. There are a lot of matters, I believe, which we fishermen might help to settle, mysteries about our common fishes which we could help to clear up, if we were only aware of them and put forth the time and the effort to do so. We fishermen are in an enviable position, as far as science is concerned. There are millions of us right on the scene all season long, and our careful observations can add immeasurably to the knowledge of fish and fishing, if we will but equip ourselves to observe and report in a careful manner.

In the East you have to be careful, when discussing Perch fishing, to state which kind of Perch you mean, for the White Perch is a most excellent Panfish, and widely acclaimed and angled. He is not a particularly difficult fish to catch, if you except the fact of his occasional erratic habits, which are reminiscent of the White and Yellow Bass. He does give the angler a break in his choice of depth most of the time, preferring more shallow waters, and closer-to-shore waters, than his relatives.

He goes by the names "Silver Perch" and "Sea Perch," and may be found almost always in the lower parts of streams emptying into salt water. He has also been widely planted in the eastern lakes, and has very frequently found his way into them on his own, there to become a strictly freshwater fish, landlocked, but apparently happy.

He apes the ways of his relatives in feeding habits, being a rather greedy individual. He will take worms, grasshoppers, minnows, small crustaceans, insects, and has been known to gobble up the spawn of other fishes at times.

His minnow and insect diet leads him, of course, to take a fly, but to the best of my knowledge he will not leap after one, and for this reason the wet fly, I think, is the best bet for him. His attack is direct, usually with little caution involved, and, once hooked, he gives a good account of himself, especially if he happens to be one of those large individuals—over a pound. I understand that specimens have been taken up to two and three pounds, and perhaps a few even larger than that. His average size doesn't run to such proportions, but it will run somewhat above that of average Yellow Perch.

The largest specimens are most often taken from salt, or brackish, water, although sometimes transplanting adults from these waters to freshwater lakes will cause them to grow to large sizes. Feeding conditions and lack of direct ecological competition in the new environment may have some effect on this phenomenon.

In regard to the White Perch, as with the Yellow and White Basses, I must admit that I cannot give you much in the way of new fishing ideas, for my contact with the species has been limited. Those of you who are Easterners, or who find opportunity to fish him, may be able to gain inspiration from other chapters, so that you will seek out novel ways and means of approaching the White Perch problem. But I should feel guilty of possible misstatements, if I tried to tell you how to fish him in any better way than the accepted methods.

As I've said, this little fish likes fairly shallow water, particularly over a clay or mud bottom, or along the rocks at the sides of streams. Here you may fish him, either from shore or from a boat, using your fly-weight tackle and casting worm, minnow, or grasshopper, letting it sink, and retrieving slowly. Spinner

combinations are very good, with a chunk of bait, or a fly, trailing them. Pools in a brackish stream may be successfully fished by casting a wet fly upstream into the fast water, letting the current swirl your line and fly down into the pool. However, I am not much in favor of this method. It doesn't give you the opportunity to strike quickly, because of the chance that your line may be loose and tangled.

Young eels or small crabs make excellent bait in salt or brackish streams. And, once you have hooked a fish, it is a good idea to stick to the locality, for the White Perch is a gregarious fellow. Plain, old-fashioned still-fishing is good sport in the lakes, and compares favorably with our mid-western Bluegill fishing. The White Perch has enough depth of body to put a good flat side against your pull; he is a swift and powerful swimmer, and his wild rushes when first he feels the hook will put a most satisfactory arc in your light rod.

Artificial flies, in my opinion, will take fish better in fresh water. I don't know why this should be, unless it is because the brackish streams offer more food, thus cutting down the appetite of the greedy little fish.

Just for a moment, let us look a bit more closely at our fish. He is not a brilliantly colored individual. His color is olivaceous to darker green, with his sides silvery, or, in darker specimens, quite green. A landlocked individual is usually darker than a salt or brackish-water specimen. He has faint longitudinal streaks along his body. These are paler than his ground color, though in very light, sea-run specimens they may not show up well.

There is little danger of confusing him with the White or Yellow Bass, because of his restricted eastern range, and his salt-water habits. Just remember that he lacks the distinct longitudinal stripes which they possess; and then, too, you might have a look at his anal fin. It has the same three spines which the others have, but usually eight soft rays, sometimes nine. This characteristic

could cause confusion with the Yellow Bass, but the range of that fish and its stripes never would.

It is my hope that you have the opportunity to become acquainted with this little fellow. He is particularly handy to New Yorkers. I recall that when I lived in New York City, I was constantly hearing about him, and at that time he was something quite new to me. None of his salty breed ever got as far as my special bailiwick in Michigan. He rates a hundred per cent in my book, both at the end of a line and on the table. His contribution to freshwater angling is one of the most worthwhile favors the wide, salt spaces have ever conceived in our behalf.

Freshwater Wildcats

NOW, REMEMBERING, I'm sure it must have been planned in entirety. It was a day to set a kid dreaming. It was the right *time* of day, even, for dreams to have grown until they became confused, merged into the four-o'clock summer afternoon smells and sights and sounds of mid-August—the fresh-cut clover in the adjacent Kile field, the darting, steel-blue flies hanging motionless in mid-air, humming, the small gurgle of the slow river edging questioningly beneath the huge and sadly slanting willow opposite.

The stranger could not have picked a more opportune time to appear in mid-river, from up around the bend beyond which I was not allowed to explore. I don't think, really, that he had any control over his own actions on that day. No, all of it must have been planned by fate.

Dreams had become a symphony of sensory perceptions of Nature roundabout, bathing my immature mind in that dormancy of suspended thought which is akin to dozing. The *plop* of the red-and-white plug, there in the ripple where the big log lay beneath the Kile line fence, was the impetus for awakening. I turned my gaze from the nowhere which is the special visual realm of kids by rivers the world around—and there he was, the stranger.

It seemed to me that he was loaded down with equipment of wonderful and various kinds. I had never seen such an exhibition as he was giving. Although I knew he must be fishing, I could not for the life of me make out at once what it was he proposed to catch. Still in all, from the little basket hung over his shoulder —creel was not a word in my vocabulary then—there was a fish tail protruding. With wide-eyed awe I gazed upon the stranger.

I heard the singing of his reel as a kind of compelling music. I watched, hypnotized, as the flashing red-and-white plug arced out across the river. I followed it all the way back as he reeled it in, overjoyed at the erratic flight it made just beneath the surface, away from some enemy, surely, which would soon attack it.

Wonder of wonders, there was the splash—the attack had *actually* materialized! A very foolish little Pickerel had attempted to eat that odd contraption! Mightily the stranger played him out, there in the ripple across the gravel bar. The deftness, the ease and confidence with which this fisherman worked! To me that stranger in the waders took the form, suddenly, of a real and swaggering Knight of the River.

The greatest revelation, however, was that the little speckled Pickerel could be lured from his home in the weeds in such a manner. I had never caught one, and did not seriously expect ever to be intelligent enough to do so. Up to that time, in fact, I had never even seen one at close range.

The stranger came ashore and laid it on the grass, his wonder-

ful rod and reel beside it, the red-and-white plug still in its mouth. I watched its gills move in defeat, and I put my hand upon its cold, wet, slimy side. I thought it was the most beautiful living mechanism I had ever been privileged to gaze upon. The sun and the trees and the deep shadows on the lazy, winding river all took on new meaning because of that small fish.

After the stranger had gone on, dropping his little plug here and there (I stared until he was around the bend, and listened thereafter), I sat on the bank and watched minnows in an eddy, and at last I fell into that dream world to which kids have a special passkey.

My bobber was forgotten. I sat there letting the sun bake me, dreaming about what must surely be moving around unseen down there in the black pool where the trees were mirrored. I don't believe I wanted so badly to catch a Pickerel, for this fish seemed somehow too wonderful for me even to hope to catch. I simply wanted to be assured that they were down there, somewhere. Maybe some day . . .

I looked—and my bobber was gone!

I heaved on the crooked "popple" pole, and up came a big shiny Sucker, mouth pursed in embarrassment at the foolish thing he'd done. I grabbed him up without unhooking him and raced for home with him, and I told my Dad it was a Pickerel. He looked at me and smiled, but he didn't deny it. I think he must have known the dreams I'd been having, down there by the river.

To this day, the sight of a Pike or Pickerel brings back the memory of that stranger, leaving me a kind of awed and breathless feeling. I never read the common descriptions of the "cruel-mouthed, vicious Pike" without having the feeling that the old boy is being somewhat misunderstood.

Because it so happens that all members of the Pike family have been much maligned by many fishermen, I have chosen to include them here—not, of course, with a view to any lengthy disserta-

tion on fishing for large Pike, which are really in the Muskellunge class. No, the Pike we'll talk about in this chapter are the little Pike, the ones most usually caught in our Panfish waters, those weighing perhaps up to three pounds. And, of course, we must not forget the several other members of the clan, the ones called Pickerel.

If the Muskellunge may aptly be called the "Tiger" of fresh water, then surely the little Pike and his diminutive cousins are the "Freshwater Wildcats" of our lakes and streams. They have all of the Tiger's rough-and-tumble spirit, lacking only his weight and size to keep them from his special category.

Of course, not all of our fishermen malign the Pikes. I know many enthusiasts who will not even bother with Trout, or Bass, when they find it possible to fish for Pike. I think, offhand, of one Michigan fisherman who goes to no little expense each year for a trip to Drummond Island, where he spends two weeks cruising about, catching large Pike by the dozen. Others, many of them, go to the mouth of the Thunder River, where it empties into Lake Huron, near Alpena. Here the Pike do not on the average come large, but at times you may catch them literally by the hundreds.

I often suspect that those who cast aspersions against old *Esox* do so out of ignorance, or because it seems to be the thing to do. I have never forgotten a fisherman I once knew, a Bass enthusiast, who would get violently angry when his fishing trips netted only Pike. He would horse them in, smash their heads on the nearest rock, and throw them away. This is a disgusting attitude, not alone from its wasteful aspect, but especially because it has its foundations in pure ignorance.

The Pike, of course, fights his battle quite differently from the Bass. That fact, according to our lights, should not make it less interesting. In fact, I should like to set this small paragraph aside for all and sundry to look at, while I bravely crawl to the very

tip of a dangerously brittle limb by saying that pound for pound any member of the Pike family will give as good an account of itself at the end of a line as will the Black Bass at his best. I shall dare to go even further and say that in many instances he will do even *better!*

Much of our comparison between Pike and Bass—the two most often compared—is based upon a wrong assumption in the very beginning. We think of them as such different fish, which of course they are, that we also think in terms of far different tackle. There are numerous fly-rod Bass enthusiasts who would not tolerate a Pike, even in their conversation. This is because they have never caught a Pike on a fly rod. Can you tell me one good reason why the Pike should be thought of as a bait-rod fish, and the Bass as perfectly adaptable to a fly rod? Don't get me wrong. This is not an attempt to influence anyone against the Black Bass, nor to insult that great fish in the slightest degree. It just so happens that he and the Pike seem to represent two different schools of thought among fishermen, and by examining those philosophies we may arrive at certain worthwhile conclusions regarding the Pike.

For some reason I never think of the Pike as a vicious or cruel personality among fishes. Nor do I think of him by any means as being what we might call a refined fish. Indeed not! He is probably the least refined of any of our fishes. He is a crude, larruping roustabout. He is like a big, tough, uneducated Irishman, who wears his moods on his sleeve—silent and morose at one moment, ripping the town apart at the next in an orgy of hilarity. No offense to the Irish, either, for my own grandmother hailed from Cork County!

In polite piscatorial society old *Esox* would be snubbed. He would scandalize his host and hostess and all their guests by spilling fish on his vest and burping at the table. He would break the furniture and pick his teeth after dinner; but in his extrovert mind

there'd never be the fine judgment to catch on to the fact that he wasn't wanted. No, he'd stay and sulk and insult the good taste of everyone present with his barnyard manners.

Certainly that way of looking at Mr. Pike doesn't seem to tie in with the dainty and artistic practice of light-tackle fishing. The incongruity of attempting to rationalize such a personality into a fish to catch on flies makes my description seem, at first glance, more like caricature than serious thinking. That, my friend, is the emphatic point of the whole conception. If we admit that the Pike is by no means a refined species, then go about fishing him in a refined manner, we set up a new equation for our sport potential. The answer to that equation has a good chance of being better than the answer to our old and too obvious conception.

Let me tell you a brief tale, not about Pike, but about conceptions of fishing. Keep in mind our previous discussions about fisherman behavior and patterns of fishing habit.

As I write this chapter, I am sitting in the sunshine of Florida's Gulf Coast. During the past few days I have been too busy to do any *serious* fishing. I have had a particular kind of enjoyment, however, in watching others watch me fish.

Each afternoon I have been knocking off for a couple of hours, taking my fly rod, and going to a causeway which leads to one of the keys. This causeway is lined daily with fishermen—all kinds and types of fishermen. Some are experts of a sort, some are meat fishermen, some have never wet a line in salt water before. It is a curious conglomeration, but as a group they certainly have a lot of fun. Tackle is the most motley array you ever saw. Stubby rods of two and three feet, some of them homemade—big, solid cane poles—freshwater bait-casting equipment—regulation salt-water rods. Three-foot wire leaders are standard, and some use wire for the entire line. When I walk along the causeway with my fly rod, every last one of them turns to stare at me.

I pause to visit here and there. "What do you expect to do with

that?" they ask me. "Guess you plan to smash your tackle," they say. "You're liable to hook onto anything in here."

As it happens, I have not yet run into a single person who ever used a fly rod for such work, yet most of the time these fishermen take small Jack (Crevalle) of two or three pounds, Mackerel up to five, an occasional Bluefish of three, Pompano of four pounds at best, small Black Groupers, Redfish, etc. It is true that I may hook on to almost anything down there—a hundred-pound Ray, a twenty-five pound Jack. For that matter, a four-pound Pompano, or a small Blue, will give you some bad moments on light tackle. As I appraise the situation just now, though, that will be the exception. Most of the fish can be handled on a fly rod, and I have not the slightest worry about smashing my tackle. Damage to it by salt water is a far greater risk.

It is a very simple matter. To the end of my line, I attach a three-foot length of fairly strong gut. To the gut I attach a fine, six-inch wire leader, with swivel and clip. To the clip, I snap my artificial, a white bucktail. To date, I have enjoyed wearing out several small Filefish, accidentally hooked, a couple of average Groupers, and several fair-sized Jack. Let me tell you, the Jack gave me a scramble! Even the odd-looking little Filefish had to be played out, rather than horsed in, as the stiff-rod fishermen do.

What happens if I should tie into a large fish? Why, the gut will break, of course. I will be out one large fish, one steel leader, a couple of split shot, and a white bucktail. But I am not interested in how large a fish I can catch. I am fishing purely for recreation, and the loss of a small amount of terminal tackle is a good gamble for the amount of easy-to-get-to sport I have had. The fishermen I have talked to, down there, think it rather silly, but that is because—worse luck for them—they are not fly-rod fishermen. There, on that causeway, people have fished with tough rods and wire leaders so long it is accepted as the only method. When a stranger inquires how to fish there, someone tells

him. Later, he tells another. Proud in his new knowledge, he says you *must* use heavy tackle—no telling what you may hook into.

Do you see what I am getting at? It is *ideas*, in fishing, which pay off in sport, and though I am by no means the originator of the idea of salt-water fly-rod fishing, or of fly-rod fishing *for Pike*, I am at least one of its adherents. We have always thought of those "cruel-mouthed, vicious Pike" as tough-tackle fish. Why? Because they sometimes grow very large? Because they have teeth? The average-sized Pike is a perfect fly-rod fish! The kind of battle he'll give you will make your hair stand on end. Thus we discover that there is no really good reason why we should *not* fish him with light tackle, and there are several good reasons why we *should*. We may, it is true, set our hook in a large Pike which we cannot land. There is nothing so very sad about that. In average Pike waters you will see twenty fish taken which could be handled on a fly rod to every one that couldn't. If we take the twenty on light tackle, and derive more sport from them than would have been gained from the use of heavy tackle, then lose the twenty-first one, along with our leader and line, are we not—in measure of sport—far ahead of the game? Let us go Pike fishing.

It is the middle of October, in Michigan. Indian summer is showing off in its amazingly brilliant color of frost-nipped vegetation, in the hazy-bright rays of the slanted autumn sun, in the warm breeze laden with its warning of the cold winds to come. Fallen leaves go scratching along the pavements. There is a smell of wood-smoke in the exhilarating air. We are going back to that scene of childhood today, back to the old Flint. We are going to indulge in some triple-threat sport, spend a lazy day plying our trade unhurried, enjoying every moment of this most excellent of all northern seasons to be out of doors.

Triple-threat sport? Well, that is an old favorite of mine. The duck season has been open several weeks. The northern ducks are

down now, some of them, but here and there a local mallard putters about, putting off until tomorrow his trip southward. Hunters have been banging away, these many days, along the marshes of the Big Lakes. A few mallards and blacks have tired of it. They have worked their way inland, taking refuge—one, two, three at a time—along the small rivers and upon the tiny ponds and potholes. Thus, we shall take our guns along, and stuff a dozen shells into the big pockets of our hunting coats.

Yes, we'll wear light hunting coats. That sun is warm, and the breeze, too, but still—remember that it is October. There's a chill edge to the air. Of course, bird season is open, too, and the bottom lands along the Flint are perfect hiding places for those wise old cock pheasants who've been peppered a few times. They'll feed out into the fields during the day, but about four in the afternoon they'll start slipping quietly back down toward the river, to hide in the willows and the marsh grass as the low sun dips behind the oaks and elms and beeches. We're going to pick up one of those old roosters, if we're lucky, along toward the end of the day.

Into those ample hunting-coat pockets we slip our automatic reel, several short wire leaders with swivel and clip, a small box of split shot for the deep holes, and several three-foot hunks of strong, level nylon or gut. For lures we are going to use a rather special kind. These I have are tied on short-shanked hooks. A wad of white bucktail covers the hook, and trailing out behind is a tail of the same material. This tail is tied at the top of the lure, and extends a couple of inches past the hook. All of the hair is tied on just behind the eye of the hook, and the heavy tying thread is painted with a thick coat of red enamel to give a spot of color. Besides this white one, we'll take along a red one, and a red-and-white one. We'll also slip in a couple of old-fashioned fluted spoons, with gang hooks hidden in red, white, and Guinea feathers. That is an old-time, river-tested favorite, but just a shade heavy for comfortable casting.

All right? Pull on your hip boots. Don't forget to stuff a couple of those sandwiches into your pockets, too. It's mid-morning, now, and you'll be hungry before we get back.

We take our time driving to the river, enjoying the wonder of being alive in such weather and surroundings. Once arrived, we make sure everything is stowed into our pockets, including jackknife, matches, etc.

Now then, take that cloth rod case of yours, which holds your rod in three sections, and run it through the game pocket of your hunting coat, so that it will carry comfortably across your back. I guess that's everything we'll need—and you aren't uncomfortably weighted, are you?

We start very cautiously along the river. It bends in half-loops and near-circles beneath the towering old elms and beeches. A squirrel whisks up a gnarled butternut tree. Yes, the season's open, but let him go. There's a deep hole, well protected, just around this next bend. There might be a duck sitting on it.

When you look at those holes, it makes you itch to start fishing, doesn't it? The old Pike have been lazy all summer along this river, but now with the frosts they have begun to perk up. You just *know* they'll hit today. Wait now—take it slow. Look closely. I'm positive I saw a duck swing around that far curve.

Do you see? That is the way it goes. We tramp a mile, and we flush four mallards from the river. We get two of them. It's fun, this stalking ducks along the river. But now we'd better get on to the next course.

Right over there is a big hollow log where I've hidden my gun many times. We'll unload, slip the guns in there, stow the ducks with them, stuff our rod cases inside, too, and camouflage the whole with fallen leaves. Let's have a sandwich now, and rest a moment, then we'll set up our tackle.

There's nothing especially difficult or arty about that. Look. Simply attach a three or four-foot chunk of leader to your line;

tie the six-inch wire leader to the fall end of the gut. Now then, just above the wire, pinch one split shot onto the gut. Then snap that white bucktail streamer on the wire. You see, by attaching the split shot to the gut, we place it some six inches above our lure. Thus, as we fish, the bucktail dives and comes surfaceward, much like an injured minnow. It will have a more interesting, life-like motion than if the shot were near the lure.

All right now, we'll head back toward the car. We'll fish slowly. There are stumps and logs and brush where we may get snagged, but in most of the places we can get clear by wading out to our boot tops. Slow fishing will eliminate snagging danger. And, anyway, these Pike won't want to chase after a swift-moving lure.

That's right, keep your casts short. The bank brush will give a certain amount of trouble in places, but you can always figure out some way of getting into the good holes. Let the bucktail sink a foot or two, give a quick retrieve of a yard, let it sink again. Play it out into the current when you can. Let the eddies take it under those stumps and logs and cut banks. Keep it moving—slow.

Wow! There's one already! Keep his head up, now, if you can. Don't hold too hard. Remember, a Pike is built long and solid. When he puts that tail section into action, he gets a long sweep and tremendous leverage. He'll rattle your teeth with those tricks of his.

He doesn't feel like a Bass at all. There's no quick, darting run, no head-shaking at umpteen vibrations per second. No, sir! This fellow is dogged and powerful. When he shakes his head there's something ominous, slow and bulldog-like about it. He makes you aware of how pitifully limber that rod of yours is. But you can handle him. Just take your time.

See—he runs for the arrowhead in the shallows. He hits shallow water, comes surging up, does a tail stand. He walks water

like a scrappy Smallmouth, only there's that whacking lunge from side to side with all the long hard-meated power of his tough frame behind it.

Work him in, now. He's tiring. But watch him at the net. Here, I'll net him for you. Let me get down into the edge of the water. If he dodges, let him run. Otherwise he'll take your terminal tackle right along with him. Head first, now. There! Look at him tear up that net! He's irked at this sort of treatment . . .

So we go on, working our white bucktails downstream toward the car. You like fly-fishing for Pike? Well, you should! These are no lunkers, of course, but that first one you took will go three pounds, and I've a couple here that will easily go two each. This beats heavy tackle all hollow. You see, we'll have time to fish down to the car. We'll have a long drink of water from the Thermos there. Then we'll smoke and rest a bit, and fish back up.

Just for fun, let's change to one of those old-fashioned spoon-hooks, going back upstream. We'll fish them sort of behind us, pulling them in against and across the current. Let's leave our fish in the car. No use to lug them around. Leave them on a stringer in the river? Oh, no. We'd come back and find the turtles had left us nothing but Pike-heads to carry home!

By the time we've covered the mile back up to our guns again, we begin to feel as if we'd had a hard day. We stow our rods, and a couple more Pike, wrapped in marsh grass, into our game pockets, stuff the two ducks in with them—and going back we take it slow, easy, scouting the edges of the high grass, out away from the river. We watch the places where corn and bean fields and hay stubble border the river along the high ground. The wise old pheasant cocks will be ducking down into the tall grass now. It's almost five.

Yes, going back, we add the third portion of that triple threat to our day. Our guns speak twice, and each of us adds the pleasant weight of a long-tailed "fence-row chicken" to his game pocket.

When we finally drag our boot-weary bodies up to the car, we're plain bushed. But we spread out our catch and drink in the satisfaction of a day that really paid off—Pike, Mallards, and Pheasants, and the sun dropping low, the nippy quality making itself felt in the quiet October evening. There'll be a hard frost tonight, and we'll sit inside and argue Trout fishing, maybe, with that wonderful feeling of a perfect day and a farmhand meal under our belts. Can you think of a better way to pack sport into an Indian summer day in October?

Probably we won't argue Trout fishing at all, for most often, when Pike lie glassy-eyed in the icebox, the talk gets around to a hammer-and-tongs argument about what kind they are. It's a good question to argue, really, for it's one that needs clearing up. Scientific fact makes the whole matter very simple, and though you may not agree that the scientists are right—if you, too, believe you recognize as many different kinds of the same Pike as old Lime Tenant did—we still have to take the word of scholarly gentlemen, unless we can prove them wrong. That, I'm afraid, would be rather difficult, for I'm of the opinion that they know what they're talking about.

For all practical purposes, we might say that but five species of the Pike family exist in our waters. All of them are grouped under the one genus *Esox*, of the family *Esocidae*. We'd better list these five, so we can get a plain group picture. They pose for us in stair-step fashion, and we'll begin with the smallest members, and work up. As follows:

Esox americanus—the Barred Pickerel
Esox vermiculatus—the Little Pickerel, or Grass Pike
Esox reticulatus—the Chain Pickerel, or Eastern Pickerel (sometimes called *Esox niger*)
Esox lucius—the Great Northern Pike
Esox masquinongy—the Muskellunge

There are several reasons why confusion occurs among fishermen regarding the Pikes. First of all, color in individual specimens is widely divergent. The same is true of general body shape, some individuals being long and slender, others having deep, thickset bodies. I would not even attempt to separate the various common names by which the Pikes are known. Any one species may be a Jack, a Pickerel, a Pike, a Green Pike, Blue Pike, Grass Pike, and so on for pages. The best we can do is to set them apart in very simple fashion, and then you, the fisherman, can easily decide which fish is the one you have perhaps been calling by a different name.

Let us look at one more confusing item about the Pikes. It would be, in itself, an intensely interesting study. It is this: In recent years, it has been found that the species will cross, forming hybrids in Nature as well as in laboratory tanks. Northern Pike and Muskellunge have been cross-fertilized, and the hybrids studied. Right now a great deal of this work is being carried on in Minnesota, where the larger Pikes are abundant.

Of course, we are not going to deal with the Muskellunge here, but we must mention him, in order to show how it may come about that the Pike you catch in northern waters seems to be neither one nor the other. Besides the Musky-Pike crosses, certain mutations are constantly turning up in Nature to confuse us. One of these is what appears to have been a hybrid of some sort, which has become rather common in Minnesota in late years. To date it has not received the honor of a name, except the common appellation of "Silver Pike." It has no spots, as does the true *Esox lucius,* Great Northern, but is silvery-colored, with the back pale green.

What is most interesting about this fish is the fact that it breeds true in Nature, seeking out its own kind when the spawning urge drives it to the shallows. State authorities have experimented with it, finding that it crosses readily with the others, but will remain

true almost always if given the opportunity. Perhaps, in this silvery, streamlined fish, we of the twentieth century are witnessing an excellent proof of that amazing continuous creation which we call evolution. In years to come, we may be adding a sixth full-fledged species to our list of Pikes, a fish actually *created* while we looked on!

Of course, several scientists have described various sub-species of old *Esox*, which add to the confusion in his behalf. The more conservative ichthyologists, however, are not quick to accept such descriptions as the whole truth. Thus, if we stick to our five species, we will be on firm ground. I do urge you, meanwhile, to do some looking around on your own, and to dig into the books deeper than we have time for here. The Pikes and their way of being first one kind and then another, will give you some interesting hours of amateur research.

I suppose we should find out, first, how to know a Pike when we see one. There's none of us, of course, who would for a moment confuse them with other fishes, but being able to tell *why* we wouldn't is one of those simple things which becomes difficult when we attempt to put it into words—like trying to describe in detail how to put on a coat, to someone who makes believe he has never seen, nor put one on. Try it sometime!

The simplest way I know to tell what a Pike is, is to say that it is a fish with a very long, slender body, with a huge mouth, alligator-like jaws, a mouthful of very tough teeth, and with no spines in its fins. Of course, Trout do not have spines in their fins, either, but they have an adipose fin, which the Pike lacks, and the placement of the fins on members of the Pike family is a most distinctive characteristic. Note that the pectorals are far forward, attached below the gill covers, the ventrals about midway back on the belly, and that the dorsal is very far back, almost directly above the anal. This placement of the dorsal fin is an excellent

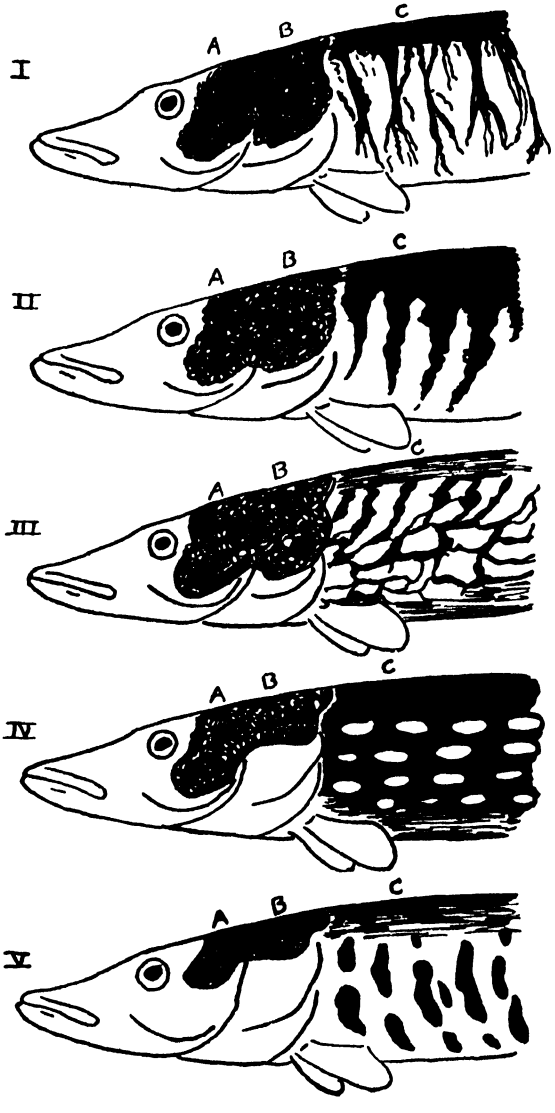
identification tag. It makes the fish appear to have no back fin at all.

Now for the different species. Whatever fishes you have been calling Grass Pike and Pickerel, it is ten-to-one you may be wrong. The Barred Pickerel and the Little Pickerel (or Grass Pike) are both very small fish. Neither grows much over a foot in length. Most often you will hear a small Pike called a Grass Pike, but, if it's fifteen to eighteen inches long, and has *spots* on the body, you may be certain it is a small Great Northern.

Some scientists claim that the Little Pickerel, or Grass Pike (*Esox vermiculatus*), is but a sub-species of the Barred Pickerel (*Esox americanus*). Possibly they are right. The Barred Pickerel is essentially an eastern and southern fish. while the Grass Pike is distributed throughout the drainage of the Lower Mississippi, and the Ohio Valley. Both are greenish in color. The Barred Pickerel (*americanus*) is marked with barred lines shading into the darker back; the Grass Pike (*vermiculatus*) is marked with wavy, worm-like lines. Both like muddy or weedy ponds, small, sluggish streams and creeks, and the weed-filled shallows of larger waters.

You will hear it said, and you will read in the books of science, that these two little fellows are of no account as Game Fishes. I don't agree at all. On light tackle it is great sport to go after them in their shallow-water hangouts. Of course, they haven't the fight in them that their big old relative, *lucius*, has, but they aren't supposed to have. I think they are two of the trimmest little fishes in our waters—exact scale models of their larger relatives. They are aggressive little devils, and, though they aren't the best eating fish I can mention, they can fill a lazy afternoon with a lot of sport, if you balance your tackle to their dainty builds.

Our next largest Pike is the Eastern, or Chain, Pickerel. This fellow is easily identified by his chain-like network of markings,


I
A
B
C
II
A
B
C
III
A
B
C
IV
A
B
C
V
A
B
C

How to identify the Pikes and Pickerels easily:

I. Little Pickerel, or Grass Pike, *Esox vermiculatus.*

A–Cheek fully scaled
B–Gill cover fully scaled
C–Wavy, worm-like dark markings

II. Barred, or Banded, Pickerel, *Esox americanus.*

A–Cheek fully scaled
B–Gill cover fully scaled
C–Vertical, down-tapering bar-like markings

III. Eastern, or Chain, Pickerel, *Esox reticulatus.*

A–Cheek fully scaled
B–Gill cover fully scaled
C–Net-like dark markings

IV. Northern, or Great Northern, Pike, *Esox lucius.*

A–Cheek fully scaled
B–Gill cover half-scaled
C–Light oblong spots on dark background

V. Muskellunge, *Esox masquinongy.*

A–Cheek half-scaled
B–Gill cover half-scaled
C–Dark markings (which vary greatly between individual specimens) on light ground

usually brownish against a greenish or paler background. He grows to an average three-pound size, and may sometimes get as high as eight or ten. Although he has been handled to some extent by Federal and State authorities, he is not easily reared in hatcheries. I believe he has been reported from at least half of our states, but he was not native over this great range. His true home is east of the Alleghenies, in the freshwater streams and lakes along the entire eastern seaboard, from Maine to Florida. In fact, Pickerel fishing, in the East, means fishing for Chain Pickerel. I have never taken one in the Midwest, although I understand they have been planted there.

Now to the Old Boy himself. Remember, first of all, that most of your Pike arguments will be as to which is Pike and which Muskellunge, when you get into large fish. The true Northern, or Great Northern Pike, *Esox lucius*, has light oval-oblong spots on a darker background, while the Musky has more or less dark markings of various sorts on a lighter background.

There is another rather common way to set the Musky, the Pike, and even the various Pickerels apart. The Musky has its cheek but half-scaled, as also its gill cover. The Northern Pike has the cheek completely scaled. So does the Pickerel. *But*, the lower portion of a Pike's gill cover is scaleless, while the Pickerel has cheek and gill cover both completely scaled.

This Pike of ours, remember, is the one and only true Pike. He is known over practically the entire world, in northern latitudes. It is said that he grows larger in Europe than in our country, even reaching weights over one hundred pounds. I don't know about that, but I do know he gets large enough here to give us a right rousing tussle.

I don't believe it's necessary to go further with our identifications. This should do the trick easily. What we're primarily interested in is to jell the idea of giving the Pike and the Pickerel a real chance to show off on the fly rod. Of course, I realize that

it is not the accepted way to fish them, and I do know, too, that if you want to go after really large Pike—and expect to land them—you had better not heed my light-tackle advice. I don't intend to cover that part of the game, though. I simply want you to get the thrill I have had out of feeling that crazy old battler on a rod that wonders whether it is going to hold him. Let's examine his battle a little more closely.

The old Wildcat is just about the most unpredictable fellow you'll ever meet. I don't think you could call his battle well directed, by any means. Nor is it refined. It exactly fits his personality. He is just a plain, rough-and-tumble fighter of the lumberjack-days variety. Yet, there are numerous tales of Pike which failed to battle at all.

I recall once when I was quite small having gone to a lake with my uncle, to spend three days camping and fishing. There were the usual fish in that Michigan lake—Bluegills, Bass, and Pike. One day I was hauling an artificial mouse along behind the boat on a hand line. I felt a tug. I yanked furiously. There was no live pull on the line. I was, so my uncle told me, dragging some weeds. I hauled in the line, hand over hand.

Ha! Those were no weeds! I had a Pike, a small one, but to me it looked positively huge. He instructed me to pull slowly, which I did. The fish swam right along toward us, not perturbed in the least about his predicament. When he was beside the boat, we saw why. He was not hooked at all. The line was simply wound a couple of times around his body. That stupid fish allowed himself to be hoisted in, and not until he hit the bottom of the boat did he seem to realize what had happened. Then he put on a highly excited scene. You'll note that I said "stupid." Well, the Pike *is* stupid, in a laughable way. I remember reading of one instance when a large Pike struck with all his might at a lure he had followed up to the very side of the boat. He missed the plug, but knocked himself cold against the boat. The fisherman lifted him

into the boat, where he lay until he "came to," before he knew where he was.

I have seen a Pike strike at a lure, get a solid jab from the hooks, yet strike several more times on successive casts, before getting hooked. It seemed almost as if the fish was determined to be caught. This determination, and the wild rush of the strike, which is characteristic of the Pike, is one of the greatest thrills of the entire fray. As a rule he makes no long runs, but his head-shaking, his aimless ramming this way and that, is a sight to behold. And his leap—ah—that is a hair-raiser! There are numerous fishermen who scorn him as having little to offer as a Game Fish; this is a radical, unintelligent stand. My friend, for sheer power and endurance, there's nothing in fresh water to match him!

Which reminds me that you should always be careful to let the Old Boy fight just as long as he will. And don't be misled by that dumb expression on his countenance, when he finally comes gliding in easily to your slightest pull. He may look you over, allow you even to lift him by the gills—then give a mighty heave ho and be gone, perhaps taking your smashed rod tip with him.

The great beauty of the Pike as a Game Fish is the fact of his wide distribution in northern waters. He is essentially a northern fish of the lakes and the large, sluggish streams, and is particularly abundant in Canada, Minnesota, Wisconsin, Michigan, etc., although he does range somewhat farther south, and of course, east.

Swift streams are not good waters for him. He will tolerate muddy water, but he doesn't like it. Fairly clear, or clear streams, and all kinds of weedy lakes are his special joy. Here, being a solitary fellow, he will lie in the comparatively shallow waters, hidden in the weeds, waiting for a luckless fish to pass. Then, with a lightning smash, he nails his prey. He is not a night feeder, but a most voracious daytime eater, and his food is composed almost

entirely of fishes. The Pike and his relatives are completely and perfectly fitted for carnivorous existence!

Seldom does it happen that he will take a worm. However, on rare occasions leeches, worms, and large insects are found in his stomach. So, too, are small muskrats, mice, frogs, even ducklings. In fact, he has made himself a scandalous reputation as a duck-killer. I am not prepared to give a positive opinion. The fact of his abundance in the northern waters where ducks nest has brought many accusations. Certain experiments worked out on a duck refuge in Michigan, however, seemed to disprove at least a portion of the theory of his destructiveness.

He will, of course, grab any fish foolish enough to pass his way, and can be most destructive to other Game Fishes, and even to his own kind. But Suckers and other forage fish, being easier for him to take as a rule, make up a good portion of his diet.

I am speaking in terms of all the tribe, when mentioning these various habits. The smaller Pickerels lead about the same sort of life as the tough old Wildcat himself. Feeding habits make the Pikes easy marks for live bait in the form of minnows; and trolling with minnows, or drifting, is a sure-fire way to get tangled with a Pike. This, of course, leads to the idea of spinners, which are excellent as artificials, and they can be very large ones, too. In fact, at times the huge spoons and spinners seem to do the best job.

I have always felt that a fish which would hit a spinner and feather combination, would also hit a streamer fly by itself; and this theory has led me to eliminate the spinner whenever possible for the sake of diminished weight, an essential to light-tackle casting.

Numerous enthusiasts have told me that Bass bugs, especially of the popping variety, are great for Pike, fished around the lily pads and over the weed beds. They say the fish will actually leave the water to take them. Personally, I've never had luck with

them, but it may be that mine were fished in Bass waters only, or perhaps not moved fast enough. I feel that the Pike and his diminutive cousins, being for the most part underwater feeders, should obviously take sunken lures best.

You don't necessarily have to fish deep. A couple of feet beneath the surface is enough. Of course, during the warmer months, the Pike will be in deep water. But they are very likely to be disinclined to strike then, too. Early spring and late fall are undoubtedly the best times. Pike are active the year around, but they seem to lose some of their zip during the hot months.

We'd better talk a bit about that. You'll hear all those tales about how Pike lose their teeth in summer. "Getting toward frost weather," the old-timers say, around my country, "and the Pike should start to hit. They'll have their new teeth, and their mouths won't be sore."

This is an unfounded allegation. Pike do not lose their teeth during any season, except as one gets pulled loose or knocked out. This tooth-losing idea has been thoroughly investigated by curious fishermen, as well as by numerous scientists, and has been found utterly baseless. Pike may at times appear to have sore mouths, simply because they bleed easily, and, in the battle with your tackle, small blood vessels are ruptured. And you may often take a Pike which is minus a few teeth. He lost them clamping down mightily on some morsel which appealed to him at the moment—your plug, for instance.

Without doubt, the reasons Pike are often difficult to take in summer are their solitary habits, the fact that they move to deep water, and also that feeding conditions during the summer are the best of the entire year. I picture a deep hole on the old Flint, where I tried all one summer not so long ago to connect with a big Pike. That fish lived there the year around. I had seen him many times, and am reasonably certain it was the same fish.

I hooked him in April, when, with a rush which nearly beached

him, he took my red-headed plug. But I lost him. Every week or so I would drive by that spot, and pause long enough to make a cast or two. Several times I saw the fish. A couple of times, he made lunges at my lures. Out of curiosity, I continued to try him with the bait rod and the plug. I was not anxious to attach him to any light tackle. He was just plain too big.

As spring wore on into summer, I could get him to rise off the bottom and lazily stare at the plug as much as three or four times on as many casts. But he refused to take it. He was, I judged, fat and full. His lazy rise was merely a gesture of curiosity. But when October rolled around, and I started out to hunt the river bottom for pheasants, I took the same tackle along. On the first cast, he struck so savagely that he missed entirely—something a Pike does not often do. I cast again, and hooked him. That was the last pass he ever made at a red-headed plug. We ate him next morning for breakfast.

If you want to try a fly-rod lure which is a killer for Pickerel and Pike, catch yourself a Perch, and cut out the light-colored belly section, with the forward fins attached. Use this on a heavy, long-shanked hook, and fish it exactly as you would a large bucktail streamer, or a spinner. Old *Esox* and his relatives are "pikers" for Perch!

If you are, as I am, positively infatuated with the idea of stream fishing, then the Pike and the Pickerels will make excellent late-season fish for you. When the Trout season is over, you can still wet your boots in a "crick" somewhere, and get the thrill of a lifetime out of a light-tackle tangle with those alligator-jawed Wildcats lurking in the weeds and beneath the blowdowns. Lake fishing is just as good an idea, and of course the same methods can be used. In some places, you'll be able to tie up your duck hunting and Pike fishing on the big lakes. After the morning shooting slows down, you fish for a few hours, then go back to your evening shooting. A lot of that sort of thing is done along

the Lake Huron shore, and it adds up to well-packed days of sport.

Around the northern lakes, too, partridge hunting and Pike fishing make an excellent combination. Of course, this is not to say that you shouldn't fish old *Esox* around the seasons. It's simply a suggestion for a little different approach to Pike fishing. Whenever and wherever you go after the Wildcats, if you'll stick to refined methods, you'll never again let anyone tell you they're not Game Fishes!

Bulldogs with Beards

AS I REMEMBER it, the first symptoms I had, that warm July morning, began to be evident about the time I finished stripping out our cow Freckles, and waited for my brother to finish with the red cow, whose name I have forgotten. There was a very sudden all-gone feeling in the pit of my stomach. A listlessness invaded all my muscles, and the pail of milk seemed to weigh more than I could carry. This sudden illness swept over me coincident with the appearance of my father, and his announcement that this, being a fine, hot morning, would be just the time to pull the pigweeds in the north cornfield.

Somehow I made it to the house, but I was unable to eat my breakfast. My grandmother allowed that I must be a little under the weather this morning, the way I acted at the table. My mother immediately began to worry, but grandmother said it was prob-

ably only a touch of the summer complaint, and suggested catnip tea. I was ordered to lie down. My temperature was taken—and found to be perfectly normal.

My father suspected, I think, that my trouble was an acute case of pigweeds in the north cornfield, but he said nothing, and he and my brother went off down the lane toward the field, although by this time my brother had begun to have symptoms very similar to mine. I felt sorry for him, and knew I ought not to act this way, but I couldn't work up quite enough sympathy to face those pigweeds.

Down the dusty road, and past the rattly plank bridge across the river, there was the remnant of an old millpond, long in disuse. It was but a puddle, really, its water black and stagnant. I decided to put my mind upon the millpond. Cowslips and mallow grew around it, bright green frogs plopped into it from every angle whenever one passed by, and down in its warm, quiet water lay jet-black Bullheads by the dozen.

The more I thought about the millpond, the more restless I became. It was hot in the house. The small breeze coming through the screen seemed to beckon with a million cool fingers. If only, I told my mother, I could go and walk in the air and sunshine, perhaps I'd feel better. She and my grandmother looked knowingly at each other. Perhaps, my grandmother suggested, it would do me good—I could walk back up the lane and sit in the shade of the sassafras trees, and watch my father and my brother work in the corn.

This was a horrible predicament for a kid to get himself into. Whatever I did, I would have to face up to the shame of my crime. To stay would be to admit guilt, to go would prove contrivance. With a masterful stroke of power politics, I not only put off decision, but turned the trend of thought slyly in my favor. What, I wanted to know, had happened to those salted Bullheads grandmother had put away in the crock two weeks

ago, the ones Missus Kile had brought over? I was hungry and craved a taste of them.

The salted Bullheads, my mother told me, were all gone. Didn't I remember how we'd eaten the last of them for supper two nights ago? And couldn't she fix me something else? No, I didn't think anything else would do. Just seemed like I was hungry for Bullheads. If only somebody could be found to sit quietly on the bank of the old millpond—an occupation, I pointed out, which would require practically *no* exertion—and catch some!

I suppose what she should have done was to paddle my backside. But my mother was far too wise, her intuitive sense of proper child psychology too sharp. She first asked me very seriously how I really felt, and when I had hung my head and answered that I felt fine, she suggested that I go now and help with the pigweeds—but she quietly added her promise that later this very day my brother and I should have a try at the Bullheads in the old millpond.

Now then, you think that over a bit, considering all its angles of inter-family relationships, and it makes very good sense. I thought so even at the time, especially the part about the Bullhead fishing. It is an occasion I have never forgotten, because of both the psychology and the fishing. Let me tell you, that last part was *something!*

You would take a milk pail, a can of worms, a nondescript cane-pole outfit, and pad down through the warm, ankle-deep dust of the country road, pausing to kick pebbles off the bridge into the river. You went to the right, around the bank of the tiny, black pond, and you simply wormed up your hook and threw it in. There was no waiting, no time for suspense. A Bullhead was fast before the worm had time to settle.

You yanked him out—how he did wriggle and flip as he dangled above the black water!—and you flopped him into the grass. The technique of taking him off the hook was something to

master, now let me tell you. You had to approach carefully, exactly as Uncle George had taught you, grasp the head quick as a cat with your left hand, while holding the line in your right. You folded the fin spines neatly back against the body, gripping the eight-inch fish with all your might. Then you worked away at the hook until his tough mouth gave it up. It was nothing to take a pailful of Bullheads in an hour.

Grandmother knew exactly how to skin them, how to grasp the head and pull so that the backbone came entirely out, leaving you a flat Bullhead fillet. A layer of salt in the earthen crock, a layer of Bullheads, and so on, until the crock was full. Talk about an eating fish! There are fish, and fish, but the Bullhead is in a class by himself. There's something about a Bullhead that means . . . Well, but wait. As you can see, I'm stumbling a bit, so let me try to explain.

When I was working up my nerve to begin this chapter, I thought and thought about it, wondering how it would be possible to tell, in a few thousand words, all of what the Catfish tribe means to us in these United States. It is something more than fishing, something over and above sport, something far less tangible than mere good eating. All along through the other chapters, as this book progressed, I could hardly wait to get into this one. "When I get to the Catfish," I promised myself, "I'll sit down and simply write the hell right out of that chapter." Yet, when I got here, I was scared.

It is, you see, like trying to express an opinion on being an American, or perhaps like trying to tell another American what one *is*, what it means to *be* one. You just can't do it. I can't, anyway. You know, and I know, but wrapping words around it is something else again.

Too, writing of Catfishing is dangerous ground. You can tell a man how he ought to do this or that about Bass fishing. You can suggest to him ways to improve his roll cast in angling for Trout.

You can remark casually to a man that his wife is homely, or his kids ill "brung up." But there are two things you may not do in this man's country—kick his dog, or attempt to change his way of Catfishing!

Indeed, when a man knows how to catch Catfish, he knows how, and that ends it. He who does so does not necessarily class himself as a fisherman. There are, you see, two distinct kinds of angling sport in this country—fishing, and Catfishing. The spirit of the former may be written into books, but that of the latter is the stuff of which legend and folklore are made. It was never intended to be analyzed, or criticized, or set down on paper.

Well, of course, something had to be done about it. I might be somewhat helpful, I decided, and still remain on the safe side, by attempting to clear up some of the mystery of when is a Catfish a Bullhead, and vice versa. It's too bad, I know, to streamline the matter even that much, but we really should know something about the different species. Not so much that it will worry us, but something, at least. And so, we'll do that presently.

I could try too, I realized, to tell what Bullheading means to me. It's something pretty important, yet ephemeral. As far as any new philosophy is concerned, have no fear. If there's a facet of fishing philosophy that I believe is basically sound, one that I hope stays old-fashioned and prejudiced forever, it's our conception on a national scale of Catfishing!

That's my stand, and I'll stick to it. Oh, maybe I might run in a shy suggestion here and there, give an opinion or two—mind you, not for you, the Catfisherman, but for those poor souls among us (Lord pity them) who spurn the lowly Bullhead through a regrettable lack in either their early education, or their adult understanding of the worthwhile things in life.

In looking over material written about the Bearded Bulldogs of our fresh waters, I came across a piece which appeared in the *Country Gentleman* for August, 1944. It was written by a man

whom I consider, to put it mildly, a darned fine writer, and one who lacks neither the early education, nor the understanding of worthwhile things. His name is George Sessions Perry; and I believe we might get off to a good start, here, by quoting a few of his lines. He manages to say in those sentences what it would take me numberless fumbling pages to explain.

First of all, the piece is entitled "The All-American Fish." Then it begins: "The least publicized, least expensive or pretentious, and one of the participant sports most widely enjoyed by Americans, is Catfishing. A dollar's worth of equipment will fill the bill for a year. And, at gloriously aromatic intervals, the stomach is consoled with succulent morsels of the fry, and the spirit sweetened by the solitude to be found beside a running stream, as you sit and try to visualize what is going on in that mysterious world which exists a few feet away beneath the river's surface.

"Unlike fly fishing, or two dozen other expensive and frequently snooty sports, Catfishing is never done because of the effect it may have on one's social position, *but is indulged in by plain human beings for the good of their stomachs and souls.*" (The italics are mine.)

Don't you think Mr. Perry set his hook pretty solidly with those words? Indeed he did! But let us now, regretfully, leave the pleasant realm of romantic Catfishing talk for that less enjoyable world of scientific fact. We'd better get a brief picture of those old mud-mongers with whom we're consorting, and do it quickly, because we are likely to succumb at any moment to the spell of reminiscence, to lapse again into that special world where the romance of the river hypnotizes us.

To begin with, the Catfish family, *Ameiuridae*,* is a huge group of fishes—some 700-odd species—distributed around the

* Very recent publications list the Catfish family by the name given, but in all others you will find it called *Siluridae*.

globe. Most of them are freshwater fishes, though not all, and the majority are tropical or sub-tropical fishes—or perhaps it would be better to say that Catfishes are most abundant in such habitats.

The thing which makes a chapter on Catfishing difficult is that this family covers a tremendous size-range among its individual species. In some of our southern waters, fish of fifty and sixty pounds are not uncommon, and specimens much larger often turn up. In Europe, particularly in the Danube River, the mammoth Wels, or Sheatfish, is fairly abundant. Some of these fish will weigh as much as four hundred pounds. Yet we don't have to look much farther than our noses to discover tiny species which never grow larger than two or three inches in length.

Thus we cannot say that Catfishing should be done thus and so, nor can we hope to set up a chart-size picture of the family which will cover all our species—about thirty-five in North America. We can, however, choose those species which are best known to the majority of fishermen, and perhaps get an idea of what the *Ameiuridae* look like on paper. First, let's divide them in the usual scientific manner, by genera:

1. Genus *Ictalurus*—the Channel-Cats
2. Genus *Ameiurus*—the Bullheads (or Horned Pouts)
3. Genus *Pilodictis*—the Yellow Cat†
4. Genus *Noturus*—the Stonecat
5. Genus *Schilbeodes*—the Madtoms

These are the only five genera we will need to know, to give us a very good general idea of the *Ameiuridae*. Next, let us have a look at the most obvious characteristics of these fishes. First, remember that the Catfishes (at least the ones with which we'll come in contact) are scaleless fishes. About the snout and mouth

† The Yellow Cat was formerly placed in the scientific genus *Leptops*. You'll find that name used in older lists.

are several barbels, or feelers. Their bodies are elongated, and the fin structure sets them apart rather well from other fishes.

The dorsal fin is generally not wide. It is set far forward in relation to body length, and has a single tough spine at its anterior edge. The pectoral fins each have a single spine, very sharp, tough, and more or less capable of inflicting a poisoned wound. The ventrals are placed on the belly, about midway. The anal fin is much wider, or broader, in relation to body length, than the dorsal. Note now, closely, that the Catfishes have an *adipose* fin, much like the Trout and Salmon. In the Stonecat and Madtoms, this adipose fin is long and low, and usually connected in a continuous line with the tail, or caudal fin. In most of these species, there is a notch which partially separates the two.

Aside from the fact that the Catfishes are dull in color—brown, black, yellowish, dark gray, blue-black—this should complete a general description. Now we'll divide them as to size, to see what relationship they bear to light tackle and frying pans.

For our purposes we may eliminate the genus *Noturus* (Stonecat), and the genus *Schilbeodes* (Madtoms). These are most interesting fishes, but most of them are very small, and of little use either as food or game. They have well-developed poison glands at the base of the pectoral fins, and some have such a gland under the dorsal spine, too. A painful wound may be inflicted by these spines, the poison reacting in most instances similar to the sting of the bee. The single species belonging to the genus *Noturus* (*Noturus flavus*) may grow upwards of twelve inches long, but the others are in the three-to-five-inch category.

To the genus *Pilodictis* belongs a single species, *Pilodictis olivaris* (in older checklists, *Leptops olivaris*), which is a very large fish inhabiting the muddy bottoms of large, deep rivers, particularly in the Mississippi system. It attains a weight of fifty to seventy-five pounds, or more. Many are the colloquial names for it—Yellow Cat, Mud-Cat, Morgan Cat, Shovelhead Cat, Flat-

belly, Nigger-belly, Goujon. Of course, big Catfish have to be small at some time, and we might take small Yellow Cats—but we could hardly class this tough old monster as a Panfish.

The genus *Ictalurus* contains several species, four of which we'll look at briefly here. These, the Channel-Cats, are our best species from the point of view of the sport fisherman—and possibly from a gastronomical viewpoint, also. They are quite active fishes, in comparison with other mud-loving members of the family, preferring fairly clean water and strong currents of the channel, and are the *true* Catfishes, as opposed to the Bullheads and the Yellow Mud-Cat.

They are rather large fishes, but the species scale down in size so that they easily come into the light-tackle division. The Blue Cat, *Ictalurus furcatus*, which ranges down the Mississippi Valley and throughout the Gulf States, grows very large, some specimens weighing one hundred and fifty pounds. It is for the most part a big-river fish of the channels and currents. The Eel Cat, *Ictalurus anguilla*, is a medium-sized fish, also fairly common in the Mississippi system. It is a long, trim species, with a forked tail (like the other Channel Cats), and is rather pale in color. Specimens up to twenty-five pounds are not uncommon. The White Cat, *Ictalurus catus*,‡ is the so-called Channel Cat of the East Coast, and ranges from about the Delaware River southward and around to Texas. It has also been introduced on the Pacific Coast. This is a smaller fish, its maximum length usually not more than twenty-four inches. Keep it in mind as we go on, for it is of a size to fit our light-tackle methods.

So far we have discounted the tiny Stonecats and Madtoms, and briefly appraised most of the lunkers. In the genus *Ictalurus*, however, is found the pride and joy of the light-tackle fisherman, that excellent little gent, the Channel-Cat proper, *Ictalurus punc-*

‡ In older references, the White Cat is called *Ameiurus catus*. Although it is a freshwater species, it sometimes occurs in brackish streams.

taus,§ or, as many net fishermen along the Mississippi call him, the Fiddler. From a strictly high-hat point of view, he is the very best of the Catfishes. This is only my opinion, mind you, so stick to your own favorite, if you have one.

Let me pause in our Catfish parade long enough to tell you a bit more about the Fiddler. First of all, he is the Beau Brummell of the tribe, resplendent in his irregularly polka-dotted, tight-fitting suit. He is pale in color, sometimes almost silvery, shading into olive with a coppery or near-pink hue above the lateral line. He has a neatly forked tail, and a really streamlined shape, his back being hardly arched at all, and his head long and slender.

It is true that he is considered one of the larger Catfishes, because he often crowds twenty-five pounds; but in most waters where he is abundant you will take specimens from eight to fifteen inches. This gent, being high society among the Catfishes, doesn't cotton greatly to mud, or muddy streams, but likes rather fast currents and clean waters. Large adult specimens are found most generally in the large rivers, of course, but the fryin'-size fish, of which I am speaking, are very abundant in hundreds of small creeks and rivers, and also in clean lakes. The species is, in fact, the most abundant of the true Catfishes, and ranges all through the Mississippi Valley, into Texas, Louisiana, and northern Mexico, and north throughout the Great Lakes region and well up into Canada.

Like most Catfishes, this fellow will take a variety of food, but reliable scientific research has perhaps unwittingly given sport fishermen some valuable tips. About a fourth of the food in stomachs examined was found to consist of algae and pond weeds. Have you ever tried still-fishing Fiddlers with algae for bait? It works! Simply scrape some of the tougher varieties from the

§ The Channel Catfish is usually called *Ictalurus lacustris*, known also as the Great Lakes Catfish. The Fiddler, or Speckled Catfish, is thought to be a subspecies, *Ictalurus lacustris punctatus*, although the separation, according to authorities, is questionable.

stones in swift water, and bait your hook with it. This is a trick many old-timers use, but it is little known among modern anglers.

Very nearly half of the Fiddler's food is made up of insect forms which live on the bottom, such as the nymphs of dayflies, gnats, and dragonflies. What could be more perfect for the fly-fisherman? Either live bait, or artificial nymphs of the correct patterns, fished on the bottom and very slowly, will do the trick. It is even possible at times to get Mr. Fiddler to take a small streamer representing a minnow; but such flies should be fished slowly.

I shall never forget an experience I had at a lake in Ohio one summer. I was there for several weeks, and fished every day of that time. If ever I saw Bass and Bluegills perverse, they were then. I simply was doing no good at all.

The lake was a large one. On one side there was a channel some twelve feet deep and perhaps thirty feet wide, bridged, and opening into a smaller lake. As a stream ran out of the small lake, there was a good current through that channel, especially when the wind was blowing hard across the big lake, in the direction of the small one.

A stranger, leaning on the bridge and watching me in a boat below him in that channel, as I wore out my arm with a Bass bug, finally said, "Mister, you'll never catch Channel Cats with that riggin'."

I told him I didn't even want to, and I imagine I sounded quite irritable. Presently he left. I unwrapped some hot dogs I had with me, and sat munching them like bananas. A chunk about as big as a marble fell overboard. For no reason at all, I watched it settle down through the clear water, carried along slowly by the current. Suddenly there was a flash of dark silver—and the hunk of hot dog disappeared.

Well, I don't know whether I originated the sport of fly-fishing with hot dogs, but at any rate, that's what I did. I put on a No. 4, long-shanked hook, broke off a chunk of "dog," hide and

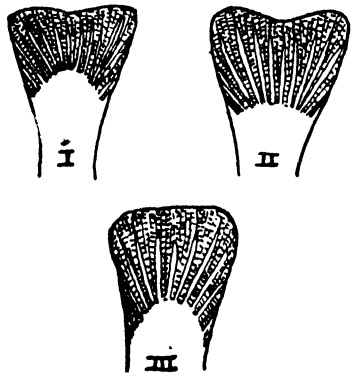
all, and baited with it. I cast this contraption up into the current and let it tumble naturally along past the boat, while I took in line so I could strike if necessary. When it had passed, and had settled some six or eight feet deep, I had a strike. The hook went home, and I want to tell you, now, I had a very solid battle on my hands before I finally boated a two-pound Fiddler.

Believe me, I passed up the Bass and Bluegills for a few days after that. When my hot dogs ran low, I changed to rat-trap cheese, and then to raw liver. All three did very nicely, and the Fiddlers I took did as well, giving me all the sport I could possibly ask for. Oddly, this fellow will strike well during the daytime, at least during the early months and sometimes on into July. This habit is somewhat different from the generally nocturnal feeding habits of most Catfishes. And he actually *will* rise to the surface, now and then, to have a whack at a Bass bug. Not often enough to make it worth while, however; but my hot-dog flies have done well by me several times. If you like the idea, you're welcome to it. I've never attempted to copyright it, nor patent an artificial hot dog! If you haven't discovered the Fiddler with your fly rod, don't waste any time. He is a *real* sport! And in the frying pan? They don't come any better!

Well now, that takes us through a rough list of the Catfishes, with the exception of the genus *Ameiurus*. These are the Bullheads, or Horned Pouts, the most-fished, most-caught, and probably most-fun-to-more-people of all the other Catfishes combined. There are a number of species in this genus, but I think we will satisfy practically everybody if we look at but three common ones:

Ameiurus natalis—the Yellow Bullhead
Ameiurus nebulosus—the Speckled Bullhead, Common Bullhead, or Brown Bullhead
Ameiurus melas—the Black Bullhead

There are but two kinds of fishermen, those who have caught one or more of these species, and those who will, sometime. Not many fishermen, however, are able to tell one from another readily. Color will help, but it isn't always trustworthy. The Yellow Bullhead is brownish-yellow, and has a very thin skin; the Brown Bullhead is darker, and may be either plain-colored, or mottled



Tails of common Bullheads. I. Black Bullhead; II. Brown (Speckled or Common) Bullhead; III. Yellow Bullhead.

with darker brown and black; the Black Bullhead is very dark, blue-black or black, with a yellow or greenish belly, never a white one.

Size won't help much, either, for the Yellow and the Brown (or Speckled) species are from twelve to eighteen inches maximum, and the Black somewhat smaller, yet up to twelve maximum. A quick look at the tail will come close to positive identification. Yellow—very much rounded, no suggestion of a fork; Brown—somewhat indented, partially rounded; Black—tail very nearly squared vertically.

If you still aren't sure, patiently count the rays in the anal fin. They should run about like this: Yellow, 24 to 27; Brown, 21 to

24; Black, 17 to 20. You should be able to come close, using this system. Types of water where you catch these fish will help some in identification. The Yellow and the Black species are found more often in creeks and small streams than in lakes. The Brown species prefers stagnant ponds and larger streams. This, I realize, is a shaky proposition, for any and all of them may be found in different environments, but it will be a starting point, at least.

I think it might be interesting and instructive, and therefore well worth our time, to investigate some habits of the Catfish family, and some facts about them not generally known. It just may be that you are one of those who have never had time for these mud-loving old scavengers. Perhaps you are downright prejudiced against them. I know many fishermen who scoff at the idea of fishing for them, and shudder at the thought of eating them. That's what is so odd about the matter. There are so very few lukewarm opinions. You either love 'em, or hate 'em.

Well, I'll tell you now, if you belong in the first class and are a Bullheader by nature, environment, and choice, I don't need to lecture you; but if you're a non-Bullheader, either lukewarm or plus, then you'll simply have to stick out your chin and take it. For, my friend, you are to be both pitied and shamed, and you really should be reprimanded. But most of all, you ought to be initiated, or indoctrinated—which is it?—because there is no more interesting family of fishes swimming our waters than the Bearded Bulldogs, large and small.

You would think to look at these slow-moving creatures of the mud and the bank holes, that surely they must be a carry-over from prehistoric ages, a very old form of life, headed toward extinction in a swift-flowing ecology. But such is not the case. Paleontologists (men who study fossils) think, of course, in terms of ages, each of which covers many centuries. To them, the Catfishes stand as a rather recent development among the fishes. Very few ancestral fossils are found, and the structure of the

family would strongly indicate that it stemmed from ancestors with scales, possibly from the Minnow group.

As they are bottom feeders, they work and live a great share of the time in total or semi-darkness. However, instead of being blessed with large eyes, theirs are extremely small; but to adjust matters, they have most acute sensory organisms in the skin. Also, no doubt, the barbels about the snout are exactly what they look like—feelers; and I believe it is generally conceded that the Catfishes have a well-developed sense of smell.

Apparently the sense of taste, though they may have it, isn't so very important to them, for they will eat practically anything. This is a laudable trait. Think of it this way: The scavengers of the stream bottoms and the shallows are just like street sweepers in our cities, or gulls along the fishing docks. Certainly each fills a very definite position in the master plan for the well-being of all concerned in the particular habitat.

True, in certain instances they may be destructive to other fishes, by gorging themselves on freshly spawned eggs, or by munching baby fish in their wide, tough maws. But I do not believe that in the average waters it has ever been definitely proved that Catfishes were detrimental, unless, of course, they may have become over-abundant. I think offhand of a lake I have fished now and then for years. It contains Bluegills, Crappies, Bass, all in satisfactory numbers. It is a very small, round, deep lake, with no large inlet or outlet, but with many bottom springs. I did not even know, until this year, that Bullheads existed in it. Yet an old man who lives nearby, and whose acquaintance I recently made, has been taking them for many years at night. That lake has never been touched by conservation authorities.

Such a piece of water would make an intriguing ecological study. I should think that in so small a space, the relationships of the various species would be strained, to say the least. Yet, Nature must somehow have struck a very satisfactory balance. I

watched one fisherman take nine Bass there one afternoon last summer, while I took a fine mess of Bluegills. Early that morning, before daylight, the old man I speak of had brought in upwards of twenty big, fat Bullheads. I mention this, because I have just finished reading an article which urges fishermen to remove Bullheads from their fishing grounds, the author claiming, without giving any solid facts, that these fish are most destructive to other Game Fishes. Let us, I say, have the hard, indisputable facts, before we condemn my thick-headed friend, the Bullhead! Scavenger removal from any habitat may do more harm than good.

Oddly, not even extinct forms of Catfishes have ever been found on the Pacific Coast. Apparently this group never made progress up over the Rockies. Today, however, the West Coast states are blessed with several introduced species, and they seem to be doing very well.

This points up a pleasant fact about Catfishes. They are very calm characters, caring little what surroundings may be theirs. When a drought comes along and kills off numerous other species, the Bearded Bulldogs simply dig in and muddle through it. When winter comes, they feed but little, remaining inactive and sluggish; and, if other fishes get frozen out, these hardy devils come up out of the mud still as good as new, ready to eat anything and everything, regardless of its ripeness with age.

Speaking of environment, a Catfish was once taken from a river near an ordnance works. When it was cooked, it exploded, blowing stove, skillet, and fish to bits. Refuse from the ordnance plant had impregnated the tough old fellow with enough TNT to make him literally a living bomb!

The fact that the Catfishes do most of their feeding at night is a great factor in their continuing abundance, for it gives them added protection from enemies. Note also—and this is a perfect example of the sort of thing we ought to know to have a good understanding of elementary ichthyology and ecology—that their

wide range of diet is one of the chief reasons for their sturdy continuation. They are not extremely prolific fishes—that is, from the standpoint of the number of eggs spawned. A couple of thousand is average. The Brook Trout, which deposits about the same number, can not stand the pressures of civilization without the assistance of artificial propagation.

The Bullhead, however, in addition to staying shy of enemies by nocturnal feeding and being better equipped physically to fend off an enemy, is also never at a loss for the wherewithal to fill out a proper diet. Weeds and algae will do, or dead fish and animals. Brewery slops and like dainties delight him, yet, if all such sources of food fail, his jaws are powerful enough to allow him to crush mollusks, and he separates them from their shells very neatly. You cannot kill him by starvation, drought, or frost. In fact, you have a devil of a time killing him by cutting off his head!

He is a crafty character, too, determined that his species shall not die out. He puts heart and soul into his family life, looking ever onward and upward with a wave-the-flag attitude toward posterity. I can think offhand of no other fishes which coddle their offspring so much, or prepare more seriously and industriously for the "great event."

Ma and Pa Bullhead prepare the nest together. Having chosen a nook beneath log or stump, or taken over an abandoned muskrat burrow, they set to work tooth and fin. Using the pectoral spines as picks, they excavate with mighty frenzy. As their diggings pile up, they open their scoop-shovel mouths and take on a load, which is carted away and dumped. Very often they labor so diligently as to sustain severe and mortal injury. This fact has made it necessary, in artificial propagation, to equip model homes for them beforehand, in order to avoid a high death rate among adult fish during spawning.

The eggs are laid in a single, gelatinous mass. Both parents stay

by the nest, guarding their potential family during the incubation period, which is usually about fifteen days. Sometimes Papa takes the eggs and rolls them around in his mouth to clean them. After the babies are hatched, he may even dust them off occasionally in the same manner. He is a *real* family man, the welfare of his offspring ever uppermost in his mind.

The youngsters are comical little creatures, appearing to be all head, like a tadpole. When they are old enough to venture forth into the currents of life, the parents herd them together and shepherd their little flock on a tour of the submarine highways. One parent swims slowly along beside the capering kiddies, keeping them well bunched and looking out for immediate dangers. The other parent stays some distance away, holding an outpost guard, ever alert for the approach of an enemy.

Should such an enemy show up on the watery horizon, the guardian races forward and wallows in the mud of the stream bottom, sending up a smoke screen of suspended mud particles to cover the retreat of the flock. All of this seems like the too-loving solicitude of psychologically misguided parents. Yet Papa Bullhead can at times be most severe in his discipline. He will not tolerate disobedience in the form of side trips by any capricious youngster; he metes out punishment intended to assure everyone concerned that never again will the recalcitrant member stray from the compact flock. He swims the youngster down and gobbles him up!

I suppose we have avoided serious mention of actual fishing practices about as long as possible. So diversified are such methods, and the lures upon which they depend, and so opinionated are their adherents, that it would be useless to say which is best. Baits run the gamut of all things edible and non-edible. Many are the Catfishermen who swear by the various blood baits. You must bleed chickens, mixing the blood with feathers and saving it in a bucket exposed to the sun, until it smells so bad you dare not

eat breakfast before putting it to use. At this stage it is ripe and ready, and is applied to the hook in chunks. The hook is then carefully lowered, so as not to wash away this delightful mess, and, fished near or on the bottom, it brings sure results.

You take corn and soak it in water and let it sour. Then you chum up the Bullheads by sowing this liberally over the muddy shallows—whereupon, by dropping a hook baited with the same bait, or with dough balls, liver (raw, cooked, or rotten), fresh beef, cheese, bread soaked in water and made into a paste, and so on endlessly (and increasingly hard upon the nostrils as the list lengthens), you haul up Bullheads by the dozen.

A method several of us use often, at the cottage of a friend of mine, is to clean our fish on the small boat dock at the water's edge. We toss the refuse into the shallow water, then wash down the planks to remove scales and smell. By nightfall the Cats and Bullheads have gathered for a feast. We then haul out the minnow bucket, or break out the worm pail, and go to work on them. Not only do we take nice catches in this way, but by morning the bottom is licked clean of fish heads and entrails. Thus we fatten our prospective customers for the frying pan, and avoid the unpleasant drudgery of burying the refuse.

Set lines and trot lines are, of course, standard methods for taking Catfishes, large and small. Although these sports are not, in my opinion, the best to be had from these fishes, I will admit that each has its appeal. I recall with a quickening pulse my kid days when first I learned to trap muskrats. There was a wonderful expectancy in making the rounds of the traps, those nippy November mornings. Here would be one pulled back under the bank, with cattails and mud torn up in great style. Surely it contained a drowned rat. But no, this one had pulled free. Up the "crick" a piece, however, I could already see a fat, well-furred fellow swimming about in mid-stream. I rushed ahead for the kill.

Making the rounds of set lines is exactly the same sort of thrill, holding always that wild expectancy, fraught with the disappointment of a broken line here, a fish gone free there, a bait chewed off—and then that swishing line, tied to a willow on the bank and making it dance, which tells of a really big fellow shaking his bulldog head down under, somewhere, and cursing his luck for being so stupid. Indeed, this is sport, but it is more like hunting or, particularly, trapping, than like fishing. The fact that Catfishes feed best at night, and that the rounds of the set lines often are made at night, with the old lantern held high to add its eerie quality to the dark swirl of the water and the battle of a fish, lends to these off-trail fishing methods a wonderful quality not to be gained from any others.

There are two other comparable methods I want to mention, for they are in the same category, and both are exciting affairs. The one is the method called "jugging." Probably you already know how it is done. You cork a gallon jug, attach a line of proper length to its handle, bait up with a minnow, piece of fish, angleworm, liver, or whatever, and toss it out into lake or stream. If your medium happens to be a slow-flowing river, I think the fracas is more fun.

You follow the floating jugs in your boat. Suddenly one bobs and bounces. You've hooked a lunker. For fish of 20 to 100 pounds, in the large rivers, this is an exciting business. Of course, the huge Cat is capable of pulling the jug under. You don't have the slightest idea where it will bob up again. But come to the surface it must eventually, for he can neither get free, nor hold the jug under forever. When he has worn himself out, you take up the jug and gaff him.

The other method I have in mind may have numerous names. I'm not sure that it is too well known generally. The name I've heard it called is "gigging." With a large hook attached to the inside of the wrist by a stout strap, the fisherman wades out into

a Catfish stream, or along the steep bank of a lake where enough depth of water may occur to entice the quarry. He feels here and there along the bank, searching for holes and indentations. He gropes beneath stumps and logs. Any nook or cranny capable of holding a Catfish is investigated.

It is a fact that many large Catfish will allow your hand to touch them, but you must move very carefully, and not handle the fish roughly. The experts claim that a Catfish simply loves to have his belly scratched. This they do, feeling around for the exact spot. Then, suddenly, they ram the hook home. The fish comes flying out of his hiding place, splashing and churning, putting on a mighty show before he can be subdued.

This is no sport for the novice who doesn't realize the physical capabilities of a large Catfish. A friend of mine once went gigging for Catfish, felt the head of a large fish which was lying in a bank hole. He touched it lightly. The fish didn't seem in the least perturbed. The fisherman was preparing to run his hooking hand under its belly, when the fish suddenly began nibbling at his fingers.

My friend thought this was rather comical—until he tried to withdraw his hand. The fish clamped down and would not let go. Why? Only the big Cat knows that answer. At any rate, a battle royal ensued, during which my novice friend was upset in a deep hole and very nearly drowned before the fish took fright and released him.

Catfish are powerful creatures. You very seldom lose them, once they're hooked, for they have a habit of clamping their amazingly strong jaws and keeping their big mouths shut from that moment on into eternity. The sort of battle they put up is strictly a bulldog fight. There is nothing particularly fast about it, no swift, slashing runs, no leaps and rolls. No, they simply hang back, sweeping that powerful tail back and forth, neither trying to let go, nor admitting they're licked.

Of course it is foolish to talk about using light tackle for tough old lunker Catfish. Their kind of battle is a rod-smasher of the first order, if for no other reason than sheer weight at the end of the line. I do think, however, that a light rod can add to the fun of the sport, as it will with any fish. Bullheading with light tackle, when you're taking fish of eight inches to a foot or more, is certainly more exciting than hauling away with a cane pole.

As I said before, I rather like the tradition of this variegated sport just as it stands; I don't intend to attempt to influence anyone. There is a way of going about it, however, which is a favorite of mine, and I'd like to tell you about it. I'm not sure that there's anything so especially *different* about it. It's the atmosphere that counts, the feel of going backward, somehow, to old ways and old things, taking it easy in surroundings that build up a perfect setting for talk and good fellowship. It is a purifier of the spirit, rather than a king of sports, leaving one with the feeling that he has shaken off the world and its contacts and problems for a few hours to enter a realm of peace and pleasure not to be found in other places, or attending other kinds of fishing.

You get yourself a tin can of big night crawlers, or grubs, or some cut liver—the bait doesn't matter. You slip a few hooks and split shot into your pocket. Taking your fly rod and a hunk of strong leader, you head for that old, muddy-bottomed river where the turtles plop off the logs of a sunny afternoon. Only now the sun is down. The fireflies are out, and night brings a slight chill to the air.

You've got to have a jackknife, and a hand ax, a coffee pot with the "makin's," a couple of old blankets, your pipe, and of course some sandwiches, or some special food you never seem to get enough of—even if it's pumpkin pie! You dress warmly, to fit the damp of the lowland stream. You lug the old lantern along, picking your way through the woods until you come to that hole you've been dreaming about.

Of course there are a couple of friends or neighbors with you, and even their womenfolks, if they like. All of you pitch in to scare up wood, which is piled on the bank close to the river. Some will tell you a fire scares Bullheads, but I don't believe it. I say it draws 'em. That's *my* pet Bullhead twist, and I'm going to stick to it, just to be perverse. As a matter of fact, it was my Uncle George who told me that, when I was a kid too small to hold a pole. He always caught Bullheads and so I'm going to say that's my special secret for Bullheading—just like your "doodle oil," for which you refuse to divulge the recipe, or like the fish-catching power of a hook well spit upon.

Anyway, you build a good fire on the riverbank, while someone spreads the blankets and someone else gets the forked sticks ready to hold the rods. You've simply *got* to have those forked sticks, else you may as well go home. When the fire is blazing in fine style, the blankets spread, the sticks shoved down into the mud near the water, with the fork upward, you bait up, and you fling the baited line a distance out into the dark water. No bobber, of course. Just let the fat night crawler wriggle around on the muddy bottom of the river. You couldn't see a bobber well anyway, for the firelight dances over the water in eerie and confusing patterns.

You lay the rods down with their tips supported by the forked sticks. You leave enough loose line back by the reel so you can see it move the moment you've a bite. Remember, those Bearded Bulldogs aren't going to be in any hurry; they aren't going to take fright at the feel of a hook inside that bait. They'll munch away, perhaps swallow the whole rig, including a portion of the line. Once one of them finds your worm and decides he's hungry, he's yours.

Now then, everything is set. You fix a comfortable spot for yourself, and you lie back and take it easy. You visit; you watch the fire. After a bit, you rustle up some coffee. Just shove the

old pot right up into the edge of the fire and let it boil, cowboy style.

You smoke, and you gulp hot coffee. You watch the fireflies over yonder above that spot of marsh grass. You listen half to what your neighbor is saying, and half to what the big bullfrog off down the river is saying.

Your partner, there on your right, has a fish on. His light rod arcs down and dances. It's a good one, this fish. It wallows and lunges. Everyone has a laugh as he brings it splashing into the shallows and gets flicked with mud. Every last one of you gives directions as to how best to take it off the hook. Somehow this feat is accomplished—and by that time you have a fish. This goes on for some time, and then there's a lull in both bites and conversation.

The silence out here at night is so different. Why, you know this place like the back of your hand, but it is all changed, somehow. This is a different world, not like the one you live in at all. There's a sound, off there in the woods somewhere. Everyone stops breathing, it seems, listening, wondering what made that sound. It doesn't make a particle of difference what it is, yet for some reason you all listen, and someone says something about a huge bear over yonder there, knowing all the time of course that there isn't a bear within a hundred miles. A pair of small, bright eyes gleams for a moment, then disappears. A skunk, or a mink, a coon, or a possum. You wish you could go with this little, unknown creature, follow him, be one with him, see how he lives and what he thinks about such goings-on as this.

But just then the fish begin to bite again. The talk and the laughter start up once more. A swimming muskrat cuts a wide swath, out there in the river at the edge of the flickering light, then disappears beneath the surface with a slap of his tail. Into the old milk pail another slippery fish plops—you must have an old milk pail partly filled with water, to drop the fish into—and

so goes the night, all of it something apart from everywhere and everything. Even your neighbors seem changed, more likable. The coffee tastes better, and nothing is so very important in the whole world except being here, not even caring how many or what size fish you catch.

That same writing gent whose words we borrowed a few pages back summed it up about as well as it can be done: "I have heard many people . . . remark that Catfishing struck them as being something considerably less than a sport. But that is not so much a matter of opinion as a matter of understanding. For the truth is that fishing on the river at night with a few old friends who have escaped from the humdrum world of daytime reality does not seem to compete with the concept of sport but to transcend it, to become something big and fundamental and meaningful: a simple and modest means by which a man, acted upon by the strange quiet alchemy of the river night, may achieve the profound and priceless end of finding communion with his neighbors."

CHAPTER 13

Orphans of the Sporting Angle

ODD IT IS how maturity of mind and body can bring such changes in viewpoint. Sometimes it seems almost sad to me that the ideas of childhood must undergo that metamorphosis which is commonly called "growing up." Of course, if we are to be sensible adults, we must learn to be so direct and logical in our thinking as not to waste time in regret over the inevitable. Nevertheless, when something which has held immeasurable thrill in childhood becomes distasteful, or loses its power to enchant as experience and the years add up, it often makes me feel that the system of growing old is all wrong.

If only we could keep those same childhood ideas intact, and then merely add to them from other sources, how much more rich in the enjoyment of small things our lives might be. Odd talk, isn't it, for a book supposedly about fishing? Well, the thought

occurred to me when I began to plan what I would say about those old skinflints of the mud, the whistle-mouthed Suckers and the cattail-rooting Carps.

You see, when I was a lad, I probably felt exactly as you did about the fishes which fell to my inexpert angling methods. Size and value were very nearly synonymous. Very likely we had that hammered into us by our elders. "You should see the *big* fish I caught today!" Or, "They say Mister What's-his-name caught a lunker yesterday!" Never any talk of "Wasn't it a pretty fish!" No, a fine fish meant a *big* fish. And thus, as I may have stated once before in some previous chapter, I caught a number of fine fish. Suckers!

Well, now, I will admit that the years haven't elevated my opinion of the Sucker as a Game Fish to any higher degree. In fact, they have served to detract from my original opinion, and that is too bad. I should have continued to feel exactly the same about the Sucker, and only have added other fine fish as my repertoire expanded. But such is not the way of living, and so today I do not go fishing for Suckers if there are other, more active, fishes to be had. Neither do I eat Suckers, if there are other and tastier fishes to be tasted.

That, however, is just the point. Sometimes there are neither other fishes to be angled after, nor eaten. And then, my friend, is when you and I may be thankful for such Orphans of the Sporting Angle as old Whistle-Mouth and his kinfolk-under-the-scales. For that matter, there is much sport of a casual kind to be had with these members of this orphan group. And they also fill a very definite and exceedingly important place in the scheme of things.

I am not prepared to take sides in the argument about how beneficial or destructive the Carp may be to the waters where other Game Fishes abound. Some say he roots out all the vegetation, thereby ruining the place for fishes which need cover. Some

accuse him of being a spawn eater. He and the various Suckers are reviled in many quarters, no doubt with some justification. However, if it were not for the families of fishes to which these fellows belong, we would all be in a fine fit of temper over the dearth of fishing. The Sucker family and the Minnow family (to which the Carp belongs) are two of the most important groups of forage fishes swimming the waters of the world.

Strangely, most of these fishes seem to have been evolved for forage purposes. In general, they are amazingly prolific, and most of them are absolutely devoid of any means for defense against enemies. True, when they become adult those of them who grow to large sizes are not generally attacked by the carnivorous fishes, but at any moment up until they attain full size, they may be set upon and devoured with ease.

In this chapter I have chosen to make mention of several rather diversified fishes, for the simple reason that they do not seem to fit into any specialized categories and are true orphans, in most instances. Thus we shall look briefly at the Suckers and the Carps, a couple of large Minnows such as the Squawfish and Fallfish, and also at the completely unrelated and little-credited Mooneye. I should like, for the moment, to talk about the Suckers and Carps together, for there is little difference in the simple methods used to take either, but there is a good bit of confusion existent in regard to their relationship, scientifically, to each other.

To add a bit more to the very general knowledge of ichthyology which I have tried to scatter throughout this book, we will examine here an item of scientific nomenclature which thus far we haven't touched upon. And at the same time we will automatically investigate our orphan subjects. We have talked about *Families* of fishes, about the *Genera* into which these groups are divided, about the *Species* which belong to each Genus, and about *Sub-species* which are slightly varied chips off the old block.

Standing above the Family in scientific terminology is a still

larger grouping, called the *Order*. To it may belong several Families which, though definitely set apart from each other by *special* characteristics, are still related and loosely joined on a broad scale by certain *general* characteristics. Over and above the Order is the *Class*. Thus the entire system is fashioned like the officer system of an Army, or like the system of bosses in an industrial plant.

Class—*Pisces*, the true Fishes
  Order—*Eventognathi*, the Carp-like Fishes
    Family—*Catostomidae*, the Suckers
      Genus—*Catostomus*, the Fine-Scaled Suckers
        Species—*Catostomus commersonii*, the Common Sucker

    Family—*Cyprinidae*, the Minnows
      Genus—*Cyprinus*, the Carps
        Species—*Cyprinus carpio*, the European Carp

We can see from this sample listing that there is a fairly close relationship between the Suckers and the Carps. As a matter of fact, many European scientists consider the listing in another way. They claim the Suckers to be but a *Sub-family* of the Minnows. You may, in fact, see the terminology so used in recent books in this country, all of which is confusing to those of us who only want to know simple facts, but I guess we can't rush the scientists—and in many instances they, not being too astute as grade-school teachers, expect us to know far more than we do and thus fail to explain the reasons for their puzzling changes in terminology.

The Sucker family is a large one, containing some seventy-odd species, almost all of which are North American fishes. Their distribution is very wide in this country, that is, as a *group*, although certain species, especially in the West, are very much restricted as to range. I am reasonably certain most of us know a Sucker

when we see one, so we won't go into any lengthy discussion of the various species, particularly because my description of the Suckers I know in my home territory might be somewhat different from your Colorado River Sucker, or Mountain Sucker, etc. To attempt description of each would only be confusing, and therefore those who wish to make a deeper study of the group must look to the scientific volumes.

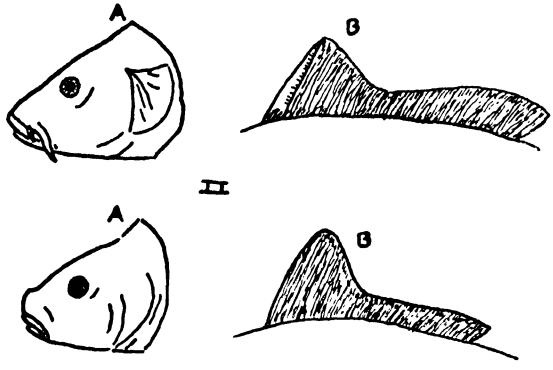
The Suckers are a closely knit group in several respects. Their bottom feeding habits correspond in all the species, and without exception they are bony fishes, not too desirable for the frying pan—but better than none, particularly those taken from the swift, clear streams.

That is an odd thing about the Suckers. They range over every conceivable kind of habitat, from high altitude to low, and from sluggish to swift waters. Trout streams in many regions are often filled with them.

The most important research we should attempt in regard to this group is to point out why a true Carp is not a Sucker, and vice versa, for the main and simple reason that certain species of Suckers are often called Carps by fishermen, in the true sense of the term. This confusion comes about quite logically. To wit, though most of the Suckers are long, near-cylindrical fishes, several species are deep-bodied, hump-backed individuals. These are the various Buffalo fishes—the Red-Mouthed Buffalo, the Small-Mouth Buffalo, etc. They look, at first glance, very much like the true European Carp, and are often so mistaken by anglers. To make matters worse, among the Suckers there are several species actually called by the name of Carp. They belong to the genus *Carpiodes*, or the Carp-Suckers. These include such species as the Common River Carp, the Blunt-Nosed River Carp, the Quillback, etc.

It is really a simple matter to tell any of these Carp-like Suckers from that large Minnow, the European Carp. Here is the way to

do it. Look first at the mouth. If there are no barbels about the mouth, it is a species of Sucker. The European Carp has four short barbels. Look next at the dorsal fin. The Suckers have a spineless dorsal; the true Carp has a serrated dorsal spine.



Distinctive differences between Carp and Buffalo.
I. Head and dorsal fin of European Carp, *Cyprinus carpio.*
A—two barbels on each side of mouth
B—single heavy, serrate dorsal spine
II. Head and dorsal fin of Small-mouth Buffalo, *Ictiobus bubalus.*
A—mouth devoid of barbels
B—no dorsal spine

So much for the Sucker side of the matter. If you have never delved into a study of the Carp, you have missed some interesting fish history. And even though you are a Carp-hater, I still am willing to bet you'd get a surprise out of gazing upon one of the little-known species, the Mirror Carp—if you have never seen it.

Although we often speak of the German Carp and the European Carp, this fish is really a Chinese species, brought to Europe somewhere around the beginning of the thirteenth century, and later—during the fifteen-hundreds—introduced into England.

Then, sometime about three-fourths of the way through the nineteenth century, the United States Fish Commission successfully introduced the Carp into this country.

I believe there were some few less than 350 Carp brought in at that time. This may seem like a very meager amount, but the Carp is most prolific. It has been estimated that a five-pound female will deposit as many as half a million eggs! To the best of my knowledge, all those introduced were, and still are, called by the scientific name *Cyprinus carpio*, even though there was a good bit of difference in the looks of individual specimens.

Actually, three varieties of *Cyprinus carpio* were introduced. Some were what are called "Scaled Carp," which means just what it says. These are the ones which we think of today when we hear the word *Carp*, the fish of which our color plate is a specimen. The remainder were of two varieties, namely, the Leather Carp, which usually has no scales at all, and the Mirror Carp, which has three or four uneven rows of very large, yellowish scales scattered against the greenish-brown skin which covers the rest of its body.

Perhaps you are well acquainted with these odd varieties. I had never seen a Mirror Carp until last year, and at first glance I thought it was an individual with a disease of some sort. They are rather pretty fish, in an exotic way.

All in all, we have very little to worry about in identification of the Carps, for there are only these three varieties, of which the common, scaled form is the one most likely to be caught. The European Carp is one of the largest members of the Minnow family, very often growing to fifty or sixty pounds, and living to a ripe old age. It seems odd to think of it as a Minnow, but that is because we use the term "minnow" as a rule to designate any small fish. This, of course, is a gross error.

The Minnow family is one of the largest of the fish families, containing hundreds of species, greatly diversified as to size,

color, habits, etc. Most of the species are small, but several others besides the Carp are large fishes. We shall note a couple of the more important ones in a moment. Right now, however, we must do a bit of Sucker and Carp fishing.

For the most part, Suckers are speared on their spring spawning runs. They gather in huge numbers at the entrances to small streams, then make a concerted dash upstream, often at night, scattering their eggs in random fashion over the stream beds. I will not go so far as to say that spearing is devoid of thrills. But I cannot condone the sport, either, if I wish to take a sensible view.

I have heard it said by many that spearing is a disgraceful practice, and without any vestige of sport. Well, I think that is wrong. I have speared Suckers at night, and found it rather exciting. At the same time, I sincerely believe it is a wasteful practice. It is true that there are a lot of Suckers. But it is likewise true that our other fishes *need* a lot of them for food. In certain sections, such as in the Trout streams, Suckers may be harmful, but that is a problem of individual stretches of water, and should be dealt with regionally. It should not give encouragement to indiscriminate wasting of fish life.

When it comes to fishing for Suckers, there is nothing at all difficult to be learned, no new or different methods that I know of. Sometimes, when Trout fishing, I have accidentally taken large Suckers on streamer flies. I wouldn't advise fly-fishing, however, as a way of taking Suckers. It works, as far as I know, only by accident.

Worms have always been my Sucker bait. I have read, and heard it said that Suckers will not bite a baited hook. This never fails to amuse me, for as a kid I caught dozens of them simply by still-fishing with worms, letting the bait rest on the bottom in fairly deep water. There is a place in our fisherman's scheme of things, too, for such Sucker fishing.

Right now I vividly recall a fishing expedition I took several years ago. It was a quest for Smallmouth Bass in a little-fished, and somewhat muddy river. There were two of us, and we failed to raise a single Bass, even after several hours of concentrated work. Finally I put on a worm and sat down to smoke, meanwhile letting the worm dangle on a loose line in a sluggish pool at my feet.

Presently the line began to run out. I grabbed my fly rod and set the hook. The rod swished down in a painful arc. At the top of my lungs I yelled to my partner, certain I was into a big Smallmouth. In a moment—but after he had arrived to rib me—I knew better. That first run of a large Sucker is a powerhouse affair. But they tire rather easily, or perhaps they just don't have much will to live.

At any rate, we set to work with worms, and for the rest of the day we caught one big Sucker after another. It was fun, too. For a few moments each fish would cut a great caper in the roily water, straining our light tackle in great shape. We even took those fish home and cooked them. Oddly, they tasted fine, the only trouble being that they were so damnably full of fagot bones.

Carp fishing is something like Sucker fishing, only more so. Carp are shy. Perhaps Suckers are, too, although I have never noticed it. But Carp frighten easily, and must usually be approached and fished for with great caution, particularly if they can see you. Dough balls, worms, kernels of corn, raw or cooked potatoes, almost any kind of vegetable—all of these are good Carp bait, and all should be fished with a loose line, directly on the bottom. You can even lure schools of Carp to your projected fishing vicinity by baiting them for several days with corn, or a substitute.

I cannot, without reservations, recommend the Carp as a fly-rod fish. Small ones, yes—but you never can be sure that only the small ones will bite. A large, healthy Carp is a tough antagonist.

He will bore down and hold back until you simply force him to come out upon the bank. I will say that they are plenty of sport on a fly rod, but I use a leader which will be sure to break in time to save my rod, if necessary, on that first wild run. If you want to get some good practice in handling heavy fish on light tackle, the Carp will give it to you. But keep him moving. If he gets down and sticks, it's a devil of a job to change his mind with a whip-limber rod.

I cannot resist putting in here, for no reason at all, a Sucker story, and a Carp story. The Sucker story first. I was fishing Michigan's Manistee River for Rainbow Trout last season, with several friends. As we went out one morning, I kept haranguing and chiding them until I got them to put up a pot for the biggest fish. We each chipped in two dollars, and were on our way. At noon no Rainbows worthy of mention had been caught. The same at supper time. The largest at that time was eleven inches. My largest was a measly nine.

I went back to the river and worked until nearly 10 p.m., and at last, I caught my fish—a good fifteen-inch Trout. Complimenting myself on my determination, I proudly lugged the fish home, certain I was the winner. No one seemed impressed. In the icebox, they vowed, was a fish to beat mine all hollow. There was, too—a huge Sucker. And no amount of argument would gain me that sizable pot. I had said "the biggest fish" without mentioning species—and thus my two dollars were gone forever. Worse yet, I have been asked no less than a dozen times, by total strangers who had been put wise, if I am the Trout fisherman who buys Suckers at two dollars each!

The Carp story is not an anecdote, but a method of fishing. Every spring, in the Saginaw River Valley, there are almost certain to be small floods which inundate numerous fields. Carp by the thousands swarm over the riverbanks, and "graze," ruining many acres of winter wheat. Several of us conceived the idea of

hunting Carp. Armed with 22 caliber rifles, we waded those fields, watching for the Carp which splashed ahead of us in the shallow water. It was good sport, of a kind, and we discovered that these fish aren't bad eating at all.

The comical side of the affair turned up when I took my little black Cocker Spaniel along. She would wade, and swim when necessary. She was at first startled when the large fish zoomed by her at full speed. One or two bumped into her, which frightened her badly. But suddenly she became excited at their movements in the water and began to hunt them. This meant, of course, that in her wild excitement she had to get her nose to the ground. We were all doubled up with laughter at her antics, but I finally had to take her up for fear that she would actually drown herself with her submarine trailing.

I might just note here another odd sport with the Carp. Archers in late years have found them good targets. On some of the river bridges in my bailiwick, at spots where Carp are abundant, an archer watches for Carp to swim near the bridge, then shoots his arrow, to which a line is attached. When he makes contact, the ensuing battle is a wild melee. An odd pastime, to say the least, but not without its sporting side.

The Minnow family contains several other fishes which are in the Carp category, as far as size is concerned. Although these species have rather restricted ranges, they are very excellent Game Fishes. It seems to me that these large Minnows have a specific lesson to point out to us in line with the idea we are trying to evolve in regard to sport. First, no one of them is what might be called an excellent food fish. They are edible, of course, but the bone problem more or less kills our desire to go after them for the frying pan. In the sections where they occur, it is true that they are utilized to a certain extent for food, but from the sport fisherman's viewpoint each is primarily a sporting fish and only a *possible* as an eating fish.

This fact would make it seem that we should fish them primarily for sport. I don't know why it is, but a very great many fishermen seem to have a low opinion of a fish which doesn't eat too well, no matter how much fun it may be to catch it. Yet these same fishermen will profess to care little about eating their catch. They like only to catch them, they insist.

If that is the case, then species such as the Fallfish and the Squawfish, two of the Minnows we'll look at briefly, should be highly esteemed. What I am driving at is this—every now and then someone discovers that a fish usually thought of as no good to anybody turns out, because of some angler's alert inventive sense, to be an excellent Game Fish. Thus, in a family of fishes where we least expect to discover sport, if we find a species which lends itself well to sporting methods, we should certainly regard it just as highly as the eatin'est fish we know. *And*, we should gain from it the lesson that alertness and inventiveness pay off, in terms of sport. Who knows—perhaps you, fisherman, may be able to attack some angling problem, even in this modern day, with new slants, only to discover that you have created a real Game Fish where previously only a no-good existed.

Unless we turn out in the very near future to be better conservationists than we are at the moment, we are going to need every single one of our species, to provide sport for the army of fishermen who crave it. If it is really *only sport* we want, then the Fallfish, for example, can give us that in regions where Trout are scarce, just as well as the Trout themselves. And it may conceivably propagate itself more easily, when and if Trout propagation fails. The same is true of the Squawfish of the Far West. Many aspiring Trout fishermen, denied this sport either because of distance to the fishing grounds or scarcity of the game, may have something closely approaching their favorite sport by utilizing the Squawfish.

If such fishes sustain themselves well, perhaps more easily than

Trout in certain sections, why should we not play with the idea of handling them widely on an artificial propagation basis? They might bring sport to many, where higher-toned Game Fish had been pursued only by a select clientele. Respect—that is what such fishes deserve, even though they have lowly ancestral beginnings, and if we can establish in our minds such an attitude toward each and every one of our species, we may be amazed, as the years continue, to discover that we have fashioned from a common, little-respected species a real Game Fish worthy of our best attention. The *mental approach* to such angling problems is the channel through which such gamesters become established.

Most of our eastern Minnows rarely attain to lengths above a foot. Several western species, however, are really large fishes. One of them, *Ptychocheilus lucius*, the White Salmon of the Colorado River Basin, is the largest of our American Minnows. It proves to us very definitely that Minnows aren't necessarily little fishes, for at times it grows to a size of over five feet in length and weighs seventy pounds or more. Average weights, however, are from three to ten pounds. This Minnow is also colloquially called "Whitefish." Because of the fact that food fishes are not numerous, that is, by species, the White Salmon—no relation to the Salmon at all, of course—does enjoy a certain table reputation throughout its range.

There is very little difference between this fish and the Squawfish, or Sacramento Pike.* The Squawfish, *Ptychocheilus oregonensis*, doesn't attain quite the size of the other, and its scales are larger. Otherwise they look very much alike, both being long, slender fishes. The Squawfish, however, has a somewhat wider range, running north into British Columbia, down through the

* Recent check lists separate the Squawfish proper and the Sacramento Pike as two different species of Squawfish. The Sacramento Squawfish (Pike) bears the name *Ptychocheilus grandis*.

Pacific drainage to mid-California, into Idaho's lakes and streams, and also into the Snake River.

The Pike name often given to this fish leads us to an interesting bit of surmise. You see, the Pikes apparently never were able to overcome the barrier which the Rocky Mountains present to the spread of the fish species. The Squawfish, although it has no teeth, does have a large mouth and seems to supplant the Pike-like fishes to some degree in Nature's West Coast scheme. It feeds on small fishes to a great extent, but, luckily for the fisherman, it also takes surface insects greedily. Not only does it feed at the surface during late summer, but it also jumps from the water after its winged food with as much eagerness as the Trout. Thus it makes a good standby for the Trout fisherman who finds those fellows indisposed to take his fly.

The Fallfish, *Semotilus corporalis*, though much smaller, stands in about the same relationship to the Trout, in waters east of the Alleghenies. It does range, spottily, some distance to the west, but appears to be concentrated as an eastern species. It is a trim little fish, growing to eighteen inches or more, with an average size of around a foot. It is steel-blue above, with a silvery belly, and with red fins among the males during the spawning season. It is sometimes called the White Chub, and has the characteristic Chub shape.

This little fellow, though not much to eat, is really an excellent Game Fish. He takes a fly with Trout gusto, and battles in his swift-water habitat with all the dash and determination one could ask for. Now and then very large specimens are taken; one has been recorded, I believe, of over three pounds.

An interesting observation of the Fallfish can be made at spawning time. The fish builds a regular submarine breakwater, sometimes as much as four feet wide and a foot high, and often in the very fastest currents. The pebbles of which this nest is made

—most of them upwards of an inch in diameter—are carried in the mouth. If the fish cannot find pebbles of the right size, it will often work at rock or gravel until it has injured its mouth so badly that it dies.

There are other Minnows which will readily pass this Game Fish examination. Those mentioned, however, are the largest of the clan, and perhaps the most representative. I should like to make one more observation, while we're talking about these makeshift gamesters. Perhaps I may be able to point up my thought by giving you an example quite far removed from our immediate finny subjects.

In Florida, where I am writing this particular chapter, I have been spending a portion of each afternoon recently, watching hosts of fishermen on nearby causeways leading out to the Keys. Some days when the water is rough, the Ladyfish run under the causeways, grabbing the artificials and getting themselves hooked by the dozens. Now a Ladyfish is just about the trimmest fish you ever saw. Long, slender, streamlined, silvery below, with a blue-green back. When one is hooked, it bores down, then comes rushing up for the most beautiful leap imaginable. No Rainbow Trout ever sent spray flying in more sporting manner.

Most of the ones caught run about eighteen to twenty-four inches in length. They are solid, strong, and would make a delicious meal—except for the fact that they are one close-knit mass of small bones. Consequently, no one attempts to eat them. Worse yet, almost without exception, every fisherman is furious when the Ladyfish begin to interfere with the feathered jigs which are popular as artificials.

Why are they furious? Well, they are fishing, usually, for Pompano. At the present time, where I happen to be located, if fifty fishermen catch ten Pompano in an afternoon, the day is considered successful. Many of those with whom I've talked say that, although Pompano are delicious eating, they really don't

care about that part. It is just the idea of hooking a two or three pound "Pomp," which of course puts up a fine battle. The Ladyfish interfere. With their amazing leaps, they often ruin wire leaders—and very often successfully throw the hook.

What happens with the ones which don't get free? The fishermen throw them out upon the bridge, step on them, jerk the hook free, leave them to die! For some reason this bothers me. You watch one of those beautiful fish leap three or four feet out of the water, time and again—and then you see the bridge floor littered with dead and dying ones. It smacks of greed, somehow, and the lack of respect. To me, it seems quite far removed from sportsmanship. I would as soon catch Ladyfish as Pompano. On reasonable tackle, I will go so far as to say that pound for pound they'll put up a much better show. Not quite as *tough,* maybe, but illimitably more thrilling.

This same attitude is often evident among freshwater fishermen who chance to take some of the less consequential food fishes. The Carps, the Suckers, the Minnows—many of these are caught accidentally, left to die on the bank of a stream or on the shore of a lake. Some of us indulge in such practices because we consider ourselves conservationists of a sort, and think we are doing the Game Fishes a favor by clearing the waters of these forage fishes. Perhaps we are, but I do not believe we are individually equipped with the proper knowledge to appoint ourselves as judges, even though our motives may be above reproach. It is quite possible that such wanton killing of less desirable species does more harm than good. Certainly it is harmful to our *mental approach* to sport. The fisherman who is unmindful of the value of life to a Sucker is very likely also to form unethical habits in regard to stopping when his limit of so-called Game Fishes is filled. He may also come to discredit the accuracy of his rule, when an obviously undersized fish comes into his net.

The real angler, the sportsman, does not respect only a few

of the species around him. He respects all of them. The intelligent sportsman does not set himself up as an authority on what will be good for this or that species. He wisely leaves such decisions to the organizations which, through detailed research, *know.* It takes years of careful study to investigate the ecological relationships of species in any single habitat so thoroughly that we may know without error exactly how to manage their lives.

You see, it all comes back to the old Carp argument. Just because fishermen at Grand Rapids, Michigan, band together each year to spear Carp from a certain city-limits lake, with the end in view of ridding the waters of that harmful pest, it does not necessarily follow that every Carp in *every* body of water should be destroyed. If you have a lake, let us say, which contains only Suckers and Black Bass, you surely could not make better Bass fishing by killing every last Sucker. In fact, presently you would have neither. Don't you for one moment believe that old saying: "We can't possibly have too much conservation." It needs the addition of the adjective "intelligent." We have had, in the past, a great deal of various sorts of ill-judged conservation which we would have been better off without. A healthy respect for living things, coupled with a well-directed elimination of certain species in *particular* places *only*, when the facts warrant it—that should be the foundation of our methods. We couldn't begin to build such an attitude in a better place than with the Orphans of the Sporting Angle.

There is another of those orphans which we've neglected so far, and we'd better wind up this discussion by taking a look at him—the Toothed Herring, or Mooneye. There are at least two species of Mooneyes: the Mooneye, or Toothed Herring, *Hiodon tergisus,* and the Goldeye, or Northern Mooneye, *Hiodon alosoides.*

These fishes are, of course, not related to the Suckers and Minnows, but are only included here, as previously stated, because

they are excellent but little-recognized Game Fishes which do not seem to fit elsewhere. The name "Toothed Herring" is not altogether misleading, even though the Mooneye does belong to a family of its own, and is not a Herring at all. You see, all of our fish families are, obviously, related through the continuous process of creation called evolution. Thus we find, through the study of fossils, that certain fishes which may have once had teeth lose them and perhaps pass through a Sucker stage, during which they become bottom feeders and have no need for teeth. Rarely, if ever, does evolution turn backward. That is, a group which has lost teeth, for example, does not regain them, even though its mouth may become large—as in the Squawfish—so that it may feed on small fishes, etc.

By looking at the *Order* to which a Family of fishes belongs, we may often be greatly enlightened as to relationships. The Mooneye serves as a fine example. It belongs to the Order *Isospondyli*, and its Family is *Hiodontidae*, or, the Mooneyes. Other families which come under this same order are: the Gizzard Shad Family, the True Herrings, and the Salmon Family, which includes the Trouts and the Whitefishes.

What we see now is that the Trouts and Whitefishes are very closely related, the true Herrings not quite so closely related to them, as they have their own Family—and that the Mooneyes are related to both. When we look at a picture of the Mooneye, we discover that he has no adipose fin, as do the Trouts, but he has teeth. He is, in fact, very closely related to the true Herrings, and looks quite like a Herring, except that he has not lost his teeth through any process of continuous creation.

The Mooneye is a perfect example—either species—of a fish which, having little food value, has failed to get proper credit as a sport fish. It is rather tasteless, and is full of small bones. But you could not possibly angle a better Game Fish. It has a rather wide range, the Common Mooneye and the Goldeye together

covering territory far up into Canada and southward into Alabama, etc. It is fairly common in the Great Lakes region, and also in Saskatchewan and Alberta.

Although the Mooneyes may be caught on bait, particularly worms, they are much like Trout in this respect, for they take an artificial fly with vigor, and put on a show which will make you wonder where they have been all your fisherman's days. In size, neither species ever goes much above two pounds, and usually much less, but that is enough, for often they are found in swift currents of the larger rivers, in schools, or in the open waters of lakes, and their deep, compressed bodies added to their pugnacious characters, make them tough fish to handle.

The Mooneye is a wary fish, and a very quick one. Often fish are lost because they will come smashing up at the fly, nip at it, then spit it out so quickly that it is almost impossible to set the hook. This fish also is a good example of how the physical characteristics of a species may tip us off to methods of fishing. The name "Mooneye" originated with the exceptionally large eye of the species. A large eye usually means that the fish leans toward nocturnal feeding. Not always, of course, but an active fish of this kind, devoid of feelers such as the small-eyed Catfish has, and with a large, alert eye, is a pretty safe bet for dim-light fishing. His wariness also would indicate that he may do much feeding during the hours of greatest safety.

The best time for Mooneye fishing is either early morning, before and during the dawn, or else late in the evening. And the artificial fly, wet or dry, is a natural. Although you may not be familiar with these fellows, if you'll scout around a bit you may locate them right in your own locality—and if you do, don't fail to have a go at them. They will show you, perhaps better than any of the others, that the Orphans of the Sporting Angle can be darned fine sporting citizens of the waterways, if only they get the intelligent attention they deserve.

CHAPTER 14

Freshwater Grab Bag

EVERY YEAR for as long as I can remember, some relative of ours was always setting off in the fall to go deer hunting in Michigan's Upper Peninsula. Michigan is a state which, geographically, is like two states in one. Perhaps I should say economically, although it is the geography which has influenced the settling of by far the greater share of its population in the southern portion of the Lower Peninsula.

When you start north and pass the indefinable line which separates the thickly populated southern portion from "up north," you enter into the paradise of the tourist and the vacationer, the fisherman, the grouse hunter, and the deer hunter. So it always seemed, when I was a youngster, exactly as if those who went deer hunting were going into a most intriguing, though entirely foreign land—the big woods.

This foreign feeling is especially true of the Upper Peninsula, for, cut off as it is from the lower part by the Straits of Mackinac, you have the feeling of its being a far-off wilderness. And much of it is wilderness, with wonderful fishing, and with excellent deer, bear, and grouse hunting.

It is odd how the little memories that perhaps should be quite meaningless stick with one over the long years. I always associate deer hunting with a certain relative, and with the two I always associate a statement which never failed to come forth as the deer-hunting party set off: "Be sure to bring us back a Whitefish."

To Michigan folks, the Whitefish has long represented—commercially—the acme of good eating. Living as we did, in or near very small towns, it was not often that the General Store & Meat Market had Whitefishes on display. Now and then a smoked one might find its way to our table, but as a general rule we ate Whitefish only after the deer season had closed.

My Cousin Harry, some years older than I, would return from deer hunting, and always he would bring a good-sized chunk of venison over to our house. He would have, too, another package with him, and he would say to my Dad, "Uncle Charlie, here's a little present for you." Then the ohing and ahing would begin, although everyone knew of course what was in the package.

When finally the newspaper wrappings were undone, there before us would lie a great, silvery Whitefish, his hunched back and deep body seeming to make his small head and smaller, weak mouth look out of place. Whitefish, it seemed, were always associated—by us at least—with the north country; as a matter of fact, the northern waters around Lake Superior were where some of the best of them were taken by the commercial fishermen.

Today, when you drive up through that beautiful country, you see the signs at the Huron and Michigan and Superior docks: "Whitefish and Lake Trout, Fresh or Smoked." And so it was that Cousin Harry always stopped somewhere on his way out

of the woods to get us that special treat of Whitefish. Always the fish had to be stuffed and baked, and the taste of those meals is something I wish I could forget, for it is an exasperating matter to recall such a delectable dish without being in a position to go straightway and have your fill of it all over again.

Along with our yearly treat of Whitefish, we did of course often have the opportunity to eat "Herring." The country fish peddler came around every week during the season, tooting his fish horn. One of us would be sent out to his car with a pan, and with instructions to get several pounds of fish—if they were fresh. They always were, for the peddler, usually someone from the community, had just got them off the boat in Bayport or some one of the nearby Lake Huron fishing villages.

Those two species, the Whitefish and the "Herring," are two of the most important food fishes of the Great Lakes region. Several million dollars worth of them are caught each year. Of late years, however, the Whitefishes have been somewhat more scarce than formerly.

You will note that I have placed quotation marks around the name "Herring." This is because what we knew as a Herring is not a Herring at all, but a Cisco. It is rather regrettable that so many such misnomers should have occurred among our fishes, for the job of the lay fisherman who wishes to know more about his game is illimitably complicated and confused thereby. As this chapter proposes to touch briefly and lightly upon several of the fishes less well adapted to sport fishing, we can at least iron out some of the general difficulties regarding this confusion.

Let us summarize, first, those fishes we expect to review in this chapter. Earlier in the book we broke the various families up into groups, which, as I stated at the time, had no basis in scientific fact or relationship, but merely set apart the various species in their relationship to the sport fisherman. Group Three was as follows:

1. The Croakers
2. The Gizzard Shad
3. The Herrings
4. The Whitefishes
5. The Smelts

The first named—the Croakers—are not closely related to any of the others, but all four of the other groups do bear rather close structural and ancestral relationships to each other. Let us, therefore, forget the Croaker momentarily and have a look at the others.

We have seen something of the relationships of species, in discussing the Mooneye, which belongs to the same *Order* of fishes. Perhaps this relationship may be further brought out and simplified by a listing as follows:

Order *Isospondyli*— These are the Herring-like, Shad-like, and Salmon-like fishes.

Family *Hiodontidae*— the Mooneyes.

Family *Dorosomidae*— the Gizzard Shads. In some writings, this family is considered but a genus of the following family.

Family *Clupeidae*— the True Herrings. Included are the Herrings of the Atlantic and Pacific, the common Shad of the Atlantic Coast, the true Sardines, the freshwater Golden Shad, etc.

Family *Osmeridae*— the Smelt Family.

Family *Salmonidae*— the Salmons and Trouts, the Whitefishes, the Ciscoes (Lake Herring). In some writings, the Whitefishes and Ciscoes are placed in a family of their own, the *Coregonidae*, instead of in several genera under the *Salmonidae*.

The Whitefishes, the Ciscoes, and the Smelts have the adipose fin of the Trouts, and are long-bodied, rather elliptical fishes, usually with small heads, quite weak mouths, and fairly deep, thin bodies. The Smelts are particularly Trout-like, having well-developed teeth, but the Whitefishes and Ciscoes have either no teeth, or only a few small, weak ones. All of these fishes are more or less silvery in color, with bluish or greenish upper parts. They have single, soft-rayed dorsal fins; all of them are cold-water fishes of the northern latitudes, and all are found for the most part in large, deep bodies of water.

I do not propose to undertake any identification by species. The scientists themselves have had great difficulty in attempting to set up keys for identification. As a matter of fact, there is still much scientific confusion and argument regarding the various species of Whitefishes and Ciscoes, and to make matters worse it has been established that there is a certain amount of hybridization among them, in the Great Lakes particularly.

Certainly the Great Lakes Whitefishes and Ciscoes cannot be classed as reliable Game Fishes. Not, mind you, that they would fail to qualify as to fighting ability (and of course their eating qualities are well known), but they have certain drawbacks, particularly the Whitefishes, which make them problem fishes. The Common Whitefish has a small and very tender mouth. You could not consistently lift him into the boat on your line, if you succeeded in catching him, for the hook would often tear free.

Oddly, you will come across very few anglers who have ever caught Whitefishes on hook and line. In many lakes where they exist, no sport fisherman even knows they are there. That is because they stay in deep water most of the time. In Lake Superior, for example, this may mean several hundred feet. During the fall, when spawning, they come into shallower water, and also usually during a couple of weeks in spring, about mid-May, when they work into water of about thirty feet in depth to feed on minnows.

On this minnow-feeding spree they are hard to locate, and harder to hook. They are sometimes caught by using small minnows about 1½ inches long, baited two minnows to the hook. And the hook should be small.

However, they have an annoying way of sucking the minnows off the hook without getting caught, and if you do hook one, you have to handle him with extreme care. It is sometimes possible to take Whitefish in deep water by using a size 14 or 16 Trout hook, short-shanked, and baiting with tiny bits of clam or worm. In many backwoods sections of the North, Indians and the natives catch Whitefish on hook and line, but most of them are reluctant to tell how they manage it. I have known, too, of the northern Whitefish (which is often found in Walleye water) smacking a spinner, and giving a good battle, too. I wouldn't advise fishing them in this manner, however, for it would be a long chance that might net a few fish.

The Ciscoes differ from the Whitefishes chiefly in that they have larger mouths, tougher jaws, greater voracity, and also they are more active fishes.

During seasons when the Ciscoes are in shallow water along the Great Lakes, especially at some spots along Lake Michigan, certain fishermen have evolved a method of taking them by slipping a small, white button on a hook, using a thin leader and fly rod, and jigging this odd bait slowly up and down in the water. There is no question of the sport involved. The little "Herring" are decent battlers, although they must be carefully handled, but any lack in the spirit of the catch at such times is made up for by its numbers.

I know of one inland lake where Ciscoes are caught during a short period in very deep water—sixty feet or more—by still-fishing with small minnows. This is excellent sport, if you get your fish deeply hooked, because you must work it up through such a lot of water.

There are numerous species and sub-species of Ciscoes, some of which will take a fly on rare occasions. One of the best examples is the Lake Tippecanoe Cisco, which is found in certain Indiana and Wisconsin lakes and surrounding ranges. During a very few days in late May, in certain Wisconsin lakes, fishermen have great sport by getting out over deep water—as much as one hundred feet—and fishing on the surface with May flies for bait. Artificial May flies will also occasionally do the trick. The Ciscoes come swarming up from the deep water and greedily take the flies. However, here again the tender mouth is a handicap, for, if you attempt to play your fish, you generally wind up with no fish to play.

Of all the Whitefish and Cisco tribe, the Rocky Mountain Whitefish (and his western relatives of the swift streams and cold, clear mountain lakes) is the most adaptable Game Fish. This fish, which grows to a weight approaching four pounds, has a fairly wide range on the west slope of the Rockies, in Idaho, Utah, Montana, Oregon, Washington, and on into Canada. It is a fish which definitely should receive more attention than it gets, and possibly if it were found congenial to other habitats, it might furnish good sport and good eating to numerous fishermen in other sections of the country.

The scientific name for this species is *Coregonus williamsoni.** During the spring and the early part of the summer it will strike a fly, although gently. However, once hooked, it will give an excellent account of itself.

Bait fishing, as an all-around method for taking Rocky Mountain Whitefish, will often get better results than fly-fishing. The consensus of expert opinion seems to be in favor of stone-fly nymphs and caddis-fly larvae, with worms next in line. Remem-

* I have used the scientific name from Jordan & Evermann. Science is much confused about the varieties, sub-species, etc., of the Whitefishes, and what names they should bear.

ber, however, that this fish has a small mouth, and for that reason a small hook should be used.

There is probably no fish of our fresh waters which has a more interesting history than the little Smelt, *Osmerus mordax*. This silvery-sided little sprite with the dark-colored back, the good set of teeth, and the maximum length of ten to twelve inches has been the subject of more inquiry—and more sport of a kind—in the northern Great Lakes region during the past few years than perhaps any other fish. He catapulted into fame and then produced a first-rate mystery.

Originally, little *mordax* was a salt-water fish which entered northern coastal rivers to spawn. In certain New York and New England lakes he became landlocked. Not so many years ago, he was considered too small to bother with either as a Game Fish or as an eating fish. Then, roughly three decades ago, he was introduced into Crystal Lake, in Michigan, in the hope that he would thrive and create food for another visitor previously introduced there—the Landlocked Salmon.

As far as I know, the Salmon eventually disappeared. But not so the prolific little *mordax*. His new home was apparently as congenial a surrounding as the wide expanses of salt oceans had ever been. Soon commercial fishermen in Lake Michigan were cussing him roundly for getting into their nets. Later, when his numbers had become legion, someone decided to try him as an eating fish—with the result that practically overnight the Smelt became one of Michigan's most popular commercial food fishes. Millions of pounds of Smelt were seined from Green Bay and vicinity each year.

About the same time that these developments were taking place, someone at Beulah, Michigan, a little village on the shores of Crystal Lake, discovered one spring that the streams flowing into the lake were filled to overflowing with Smelt on their March–April spawning run. It was a simple matter to scoop them

up out of the stream, most of this dipping being done at night, when the run was heaviest.

This same procedure had been used in Maine, where the original planting came from, but here in Michigan it gained such tremendous popularity that villages in both the Lower and Upper Peninsulas had Smelt Festivals each spring, and literally hundreds of thousands of fishermen rushed to the streams to attend the Smelt-dipping exercises.

Soon the Smelt had found their way into Lake Huron, and the same great migration of both people and fish took place each spring along that coast. At the height of the run, you could often dip several bushels of tiny, silvery Smelt in an hour. The season was the excuse for many hilarious shindigs, and the dippers used everything from buckets and nets to the shirts off their backs. Afterward, Smelt fries would be held, and let me tell you they were great gastronomic orgies. You were a piker if you couldn't gulp down at least twenty-five or thirty Smelt fried crisp and brown in deep fat.

Then, suddenly, reports began to trickle down of dead Smelt piled along the northern shores in windrows. Ice fishermen reported dead Smelt popping up through holes chopped in the ice of Green Bay. Within a couple of seasons this mysterious Smelt disease had cut the spring runs down to zero. North of Saginaw Bay, in 1942, millions of dead Smelt were washed ashore. Much research after causes was done. Vigorous inquiries were made. None of the experts turned up a convincing reason for the deaths. Smelt which were examined appeared to be in good health, except for the fact that their stomachs were empty, indicating that they had ceased feeding shortly before they died.

Today the Smelt are beginning to make a comeback, but still no one can give a valid reason for the scourge which nearly wiped them out. Could this be Nature's method for holding over-population down to a convenient and balanced maximum?

In all of the Smelt talk and the Smelt dipping and Smelt eating and Smelt mystery, one item was overlooked among sport fishermen. The Smelt is a fine little Game Fish! I am not familiar with Smelt fishing in the East, where the species has been known much longer than it has around the Great Lakes. But I do know that Smelt in my stamping ground may be fished with small minnows and a small hook, and that they put up a dashing and extremely game battle for so small a fish.

At the ends of some of the Lake piers, where they are abundant, you may fish them with extremely light tackle, and have the time of your life. They are quick, active little fellows, strong strikers, and racehorse fighters when attached to your hook. It is even possible, under certain conditions, to chum them by throwing chopped fish into the deep water at the end of a dock.

Now then, I should like to point out that these fishes we have so briefly discussed pose a most interesting problem for the sport fisherman. No member of the group could form a better example of what I wish to get at, than the Smelt. While others were scooping him up at spawning time, a few fishermen who like to analyze their fishing problems and create *new* sports were discovering how to mold this tiny fish into a real proposition for the light-tackle angler. There is no fish which cannot be caught, somehow, with hook and line. Perhaps I should qualify that. There are numerous fishes which we say today are not suited to sporting methods. But it is obvious that all fishes must eat, and the path to sporting methods lies through the stomachs of our fishes. It is also obvious, it seems to me, that somewhere, somehow, methods can eventually be devised by which those species thought of as unsuited to sport may be brought into the Game Fish category.

As an off-trail example, I recall that a very famous fisherman, scientist, and writer, long years ago, stated that the Pompano, that prize of salt water, could not be taken in any way except by

the net. One day in Florida, a man fishing with a homemade contraption, a simple affair consisting of a weighted hook with a few yellow and white feathers attached, caught several Pompano. Today that lure, called the "Dude," is one of the most popular of salt-water lures, and is manufactured and used in many different forms. Not only does it take Pompano regularly, but it has taken over fifty different species of fish that I know of, in one small section alone.

My theory is that no fish swims which cannot be made a sporting species, if enough time and thought is spent on how this may be accomplished. If we once know thoroughly the feeding habits of a certain species, we may, with that as a starting point, find some method for its hook-and-line capture. To be very honest about it, I have not the slightest idea at the moment how we might turn the Whitefishes, the Ciscoes, and so on, into fish more adaptable to sport fishing methods. But someone, or some group of fishermen interested in fashioning something entirely new under the fisherman's sun, might conceivably do just that. It is, at any rate, something to think about.

For instance, I have emphasized the idea that hooks for Whitefish should be very small. That is a factor which I consider at the moment, and against the background of my small experience, to be essential to even mild success with lake Whitefishes. Yet, in New England, certain fishermen have an exactly opposite conception. They catch Whitefish in deep water by using fairly large hooks, claiming that, as the fish sucks the bait into his mouth, a small hook would put the line in his way, and also that a larger hook takes a more solid hold. This is an entirely reasonable and logical deduction, worth trying.

Fishing is an art of sorts, and, like all the arts, it must get over into science to a certain degree. The musician will scorn your statement that music is arithmetic. He will say his compositions are pure inspiration—yet, without his having learned the cold,

logical facts of musical arithmetic, he would have no frame upon which to hang his inspiration. He must lean upon the science of sound set upon paper, and, later, come to transcend his technique. It is the same with fishing. We begin with simple methods, attempting to apply our small knowledge to each and every condition. When success eludes us, we are inclined to blame the fish. Our lack of technical knowledge is more likely to be at fault.

Somehow I thoroughly enjoy the logic of technique which may be applied to fishing, and always when I find some fisherman unwilling to concede that all knowledge has already been uncovered, I admire him. What our great fishing game needs is a sturdy shot in the arm of originality, experiment, and thought. For example, no doubt you have read or heard about John Alden Knight's rather complicated Solunar Theory as applied to fishing. Perhaps you have eagerly devoured every word—or, again, perhaps you have scoffed at the whole idea.

Well, here is my slant on such matters. I am not prepared to say that Mr. Knight is either all right, or all wrong. I do think his idea is intensely interesting, and altogether logical and possible—that the effect which we call tides on an ocean are present inland, but not noticeable as such, and that these inland tides influence the feeding habits of fish. Whether he is correct or in error is not half so important as the fact of his detailed and enthusiastic thinking, his research in the interest of sport, his fresh and decidedly different approach to a question whose elusive answer we've all searched for and wondered about.

This, I realize, is getting a long way away from Whitefishes and their kin, but I'm not nearly so anxious to set down facts in our conversations throughout this book as I am to bring out *ideas* into which we fishermen may sink our hooks! The future of our sport must, of course, be *patterned* on the experience of past generations of anglers, but that does not mean it should be merely a *copy*. I think somewhere and somehow we should have

national or state organizations which, along with their efforts toward conservation, should encourage original thought and experimentation toward new, different, and better fishing methods. Who knows, perhaps someone would turn up a new type of Cisco hook, a new killer Whitefish bait, a new manner of presentation of established lures which would eventually send swarms of us out into the Great Lakes for a day of fly-rod sport with these heretofore rather unadaptable fishes?

Does all of this seem to you like so much talk? It has a purpose. Let me tell you a bit of a story. I regret that there is not time here to tell it all in detail. It is about Shad and Alewives, salt-water fishes of the True Herring group. I have chosen to include the Shad in this chapter, for, though it is by no means unadaptable to sporting methods, it is an excellent example of the discovery of a real Game Fish. This discovery came about through original experimentation with a fish which formerly was *known definitely* to be a non-Game Fish, uncongenial to hook-and-line methods.

Long ago, when the first colonies were established on the Atlantic Coast, the various species of Shad, which are anadromous fishes running from the sea up into freshwater streams during early spring to spawn, were among the first utilized food resources of this embryo nation. By the millions these fishes swarmed up into the coastal rivers, their silvery bodies flashing in the swift currents and the deep pools. Hook-and-line fishermen were at a loss, for the Shad, like the Salmon, would take no food during spawning season. This made little difference, for sport fishing was not important. People were more concerned with scratching a living from the wilderness than they were with sport.

As the colonies progressed, fishing by net and spear became a profitable business in the eastern rivers. Soon great quantities of fish were being taken and marketed. Fish dams and obstructions were built in the rivers, so that the millions of spring-run Shad,

which had a flowering shrub, the shadbush, named after them because it bloomed at the time of their run, could be headed off and caught in great quantities.

Navigation, too, was beginning to develop on these same rivers, and there was much trouble between the navigation companies and the river fishermen. In one instance, the matter came to a pitched battle, when the boatmen decided to destroy the fish racks which obstructed their activities.

Many, many decades before this battle occurred, old Izaak Walton had mentioned the fact that Shad could be caught on a wet fly during their spawning run. The colonials, however, had no time and thought for old Ike. The Shad were greatly overfished commercially in the rivers, and soon far-sighted conservationists of that day began passing laws and attempting to reestablish the fish.

All of that was taking place during a period of years which stretched on into the early eighteen-hundreds. Now we skip about a hundred years, during which time the Shad continued their runs, of course, and commercial fishermen and the general populace met them each year with nets and spears and snag hooks. Meanwhile, however, sport fishing in this country had grown to huge proportions. A great deal of knowledge had been added to the store which old Ike had set down. The Shad, however, had gone his spawning way, with not a sporting eye cast in his direction, as far as I can determine.

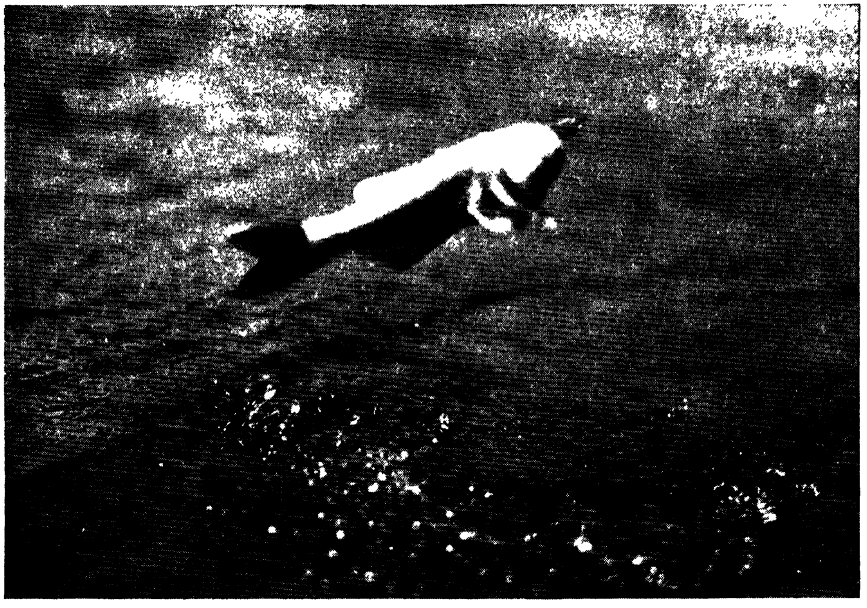
No one had considered the possibility that perhaps a Shad might hit at some certain lure just out of plain deviltry, or for some reason unknown to man. It is odd, too, that nothing had been done along these lines, for it was thought by now that Salmon also did not feed during their runs, yet would strike an artificial lure.

It is possible that I am not giving credit where it is due. Perhaps some obscure fisherman was taking Shad by sporting meth-



PHOTO BY CLEMENT CROUCH

This is the kind of northern water that's exciting in April, when the White Bass run!



PHOTOS BY CLEMENT CROUCH

Above: *Few fishermen are aware that the Walleye, hooked in shallow water, will leap high, wild, and handsome.*



Right: *Who says the Pike is a sluggish, dim-witted fellow? He'll give*

ods here and there. The sport was not, however, generally known, I'm quite sure, until around 1930. Then it was that a Baltimore fisherman, by the name of Tom Loving, designed and tied a bucktail wet fly which was composed of a black-and-white body and a white streamer hackle—and discovered that Shad on their runs would smack it viciously. He discovered, also, that a good-sized Shad is a fighting devil who strains tackle to the utmost, makes beautiful leaps into the air, dashing downstream and upstream runs, and cavorts in general much the same as a small Tarpon.

It was not long thereafter that fly-fishing for Shad in the Eastern rivers began to be a big item on the list of many a fisherman. The net-and-snag-line gentlemen were still insisting that Shad could not be taken by hook and line. But here and there an astute sportsman was showing them how wrong they were, either by using various special wet flies, or by using the drone, a metal-bodied, minnow-like gadget which appeared on the market to do the same job.

The fish are taken by casting into the current, drifting the lure through deep, swirling pools, and retrieving cross-current in regulation wet-fly fashion. You can see dozens of fish pass the lure by, if the water happens to be clear, then suddenly a big buck Shad of four or five pounds, or a small Alewife or Hickory Shad, will break away, dart out and smack the lure. At that moment, my friend, a battle is entered which would make many a Trout take notes!

Shad fishing, wherever it is found, lasts but a short time, which makes it all the more interesting, for year-long anticipation is the backbone of any sport. Though the salt-water Shads are visitors only, they have made such a reputation for themselves among freshwater fishermen that we may almost consider them one of our inland species. We do have, it is true, certain representatives of the tribe in fresh waters, but most of these run in and

out of fresh water, although some are known to be permanent residents.

Certain of these species, such as the small Gizzard Shad, which in older references is placed in a family of its own, are extremely important fishes—not for sport or for human consumption, but because they make up a great share of the diet of our Game Fishes, without competing with them for food. They feed on the mud of the bottom, straining out such organisms as they require. Thus, as one scientific writer has put it, they eventually transform otherwise useless food into the flesh of our more edible predaceous species.

It is from the anadromous Shads and Herrings which visit some of our fresh waters each spring that we may learn one of our greatest lessons in sport fishing. Those of us who know our fishes and think along original lines, no matter how foolish our experimental thinking and action may seem to the rest of our fraternity, are the ones who sooner or later turn up new kinds of sport. It is not often, nowadays, that a new Game Fish is born. It might conceivably occur more frequently, if we take the lesson of the Shad to heart.

And now, before we wind up this hodgepodge of fishes, let us give some credit to a poor old fellow who has been the recipient of many sneers and jeers over as many decades of fishing history—the Freshwater Sheepshead, Freshwater Drum, Croaker, or Gaspergou—whichever you may choose to call him. His scientific name is *Aplodinotus grunniens*. Odd as it seems, he is distantly related to many of our freshwater fishes, although his own close relatives, almost without exception, are marine. Without question he is one of our most interesting freshwater species, the more so because he so seldom is mentioned or accredited in game-fishing circles.

The name "Sheepshead," often used in the northern part of his range, is completely a misnomer. The true Sheepshead is a

zebra-striped salt-water fish belonging to an entirely different family. Drum or Croaker is his proper appellation, the name originating from his ability to make grunting sounds. Fishes have no real vocal organs, but those which are capable of emitting sounds do so in several ways—by grinding the teeth, by drawing specialized sets of muscles across the air bladder, or by forcing air from one part of the air bladder into another. This talking fish makes his grunting or croaking noises not only when drawn out on the bank, but also mutters away when he's going about his daily affairs in his own habitat. Sometimes these grunting noises may be heard above the water, seeming the more mysterious because of their apparent lack of origin.

Oddly, the Freshwater Drum has unusually well-developed, ivory-like ear bones, or otoliths, which are sometimes called "lucky stones" by fishermen who find them. It is quite possible that this development may be tied up in some way with his capability of forming sounds.

The range of the Freshwater Drum is very similar to that of the Yellow and White Bass: throughout the larger streams and lakes of the Great Lakes region and the Mississippi Valley. The Drum, however, is a bottom feeder, sticking close to the mud from which he takes mussels, clams, snails, etc. His mouth is admirably suited to his feeding habits. The shelled creatures are ground and split open by his paved teeth, the shells ejected, and the body of the clam or snail swallowed.

This is no puny fish. Many specimens are taken commercially which weigh upwards of sixty pounds. The average, however, is from three to ten. These fellows, though little fished by sportsmen, have quite a lot to offer. This again is a case of a so-so food fish getting little attention from the hook-and-line fisherman. And again there pops up that other reason for neglect—the fact that many fishermen do not believe the Drum can be taken with hook and line.

In the first case, I was highly amused during the war to see the markets flooded by fishes we would ordinarily spurn. Catfishes, Carp, Suckers, and Drums, and in markets which previously would have offered their clientele nothing but the choicest of food fishes. "Well," I so often thought, "that's the way it goes. These poor old codgers, jeered at by the discriminating fisherman and epicure alike during good times, are the fellows who come to the rescue when things get really tough."

In regard to the general notion that the Drum won't bite, that, too, is amusing, I'm sure, to many a cane-pole fisherman around the Great Lakes and the Mississippi Valley. For years they've been catching Sheepshead and Gaspergou. The colored gentry, in particular, along the Southern rivers, know how to turn the trick any day, and they know how to prepare such rough fishes so that they become delicacies. Make no mistake about that!

There may be several ways of fishing the Drum, but the one I know about is not only simple, but darned good sport. Mussels and clams and snails with the shells on—the way the Drum knows them—would be difficult to use on a hook. What other food is there which would fit into the same mud-bottom category, in fairly shallow water, and be usable on a hook? Why, the crawfish, of course! The old fellow dearly loves to grind a crawdad between his strong jaws.

The method is still-fishing, without a bobber. Simply bait with a crawdad, throw it out and let it lie on the bottom. And don't scoff at my statement that Drums are sport on a light rod—not until you've tried them! They're tough and strong, and even though they're sluggish fish in their workaday routine, they wake up and lean that deep, compressed old frame of theirs against a whip-limber rod tip with a force that can give you some bad moments.

Shore fishing is best, I believe, whether around the Great Lakes or on the larger rivers. And, when buying or searching for craw-

fish, pick out the soft-shelled ones. Although the Drum is easily capable of crunching the hard-shells, he is not easy to hook during the process, whereas he gulps the soft ones down quickly and with relish.

Give him a chance and this old fellow will remind you that sport is where you find it. When the high-toned gamesters aren't around, he'll be there to come to the rescue, just as he did when we needed him for food. He and the rest of this Freshwater Grab Bag of ours will teach you that sport is not only where you find it, but where you *make* it, as well.

Bad Dreams and Dragons

I RECALL THAT when I was a kid spring was associated with floods of a sort. Nothing dangerous, just the usual rampage of the full-bellied Flint. The Kile corn land used to take a ducking every year or two, along with a portion of Teeple's yonder forty. Now and then some fool hog would get caught in a muddy swirl and, so they said, cut its throat with its front hoofs as it tried to swim out.

The part of these so-called floods that I remember in greatest detail has to do with the ponds they sometimes left in the rolling lowlands. Pike and Suckers, Catfish and Rock Bass would often get stranded in a depression, when the water receded. Then was the time when fishing was an exciting affair which turned out to be more hunting than fishing. You would search out a muddy depression, look it over for unlucky inhabitants, and go

to work with a pitchfork, either tossing them out on dry land, or ramming the tines home so that they were pinned to the bottom.

Mr. Carter, an old neighbor of ours who had his religion so confused with supersitition that he couldn't right'y tell whether the Lord was trying to be good to him o' watching a chance to trip him up, used to make his yearly raids on these flood-manufactured ponds. Then, of a sudden one spring, he quit cold.

He had a very logical reason. One of the overflow ponds, which had settled down into a permanent body of muddy water, was occupied by a dragon. The dragon was a delegate sent by the Creator Himself, for the express purpose of hashing to bits those sinners who greedily took advantage of the unfortunate circumstances of fish in these overflow ponds.

The dragon story got its due amount of behind-Carter's-back smiles throughout the community—and then some kid, pitchforking in that mudhole, actually *saw* the dragon. Mr. Carter's weak claim on sanity was restored, and the usual run of hair-raising reminiscences went the rounds, all of which seemed to substantiate the fact of dragons in general and this one as a possibility in particular.

The Kile boys, who could cuss the hair off a hound dog, laughed at the dragon story. They were woodsies by nature and choice, and not given to fright before those intriguing mysteries which were part and parcel of their lives. They set out to slay the dragon. And slay him they did, the first time he showed his snout above water, their chosen implement for this brave work being a shotgun.

The dragon, to the disappointment, I'm sure, of everyone concerned, turned out to be a huge old Gar. And let me tell you, he looked the part which he had played. As we viewed him, lying there with a hole blown in his side, my brother and I expected at any moment to see him shoot fire and brimstone out

of that long proboscis of his. Now and again, over the years, I have encountered other "dragons," while innocently fishing for various species as meek and mild as Perch and Crappies. There is something tremendously exciting about a vicious and unexpected strike as you casually and perhaps half-dozing loll in a boat, still-fishing for Panfish.

The first thought, of course, is in terms of lunker Bass, Pike, or Walleye. After a brilliant scrap, the fish comes in. Suddenly your partner yells, "What the devil *is* it? Look!" Your heart skips a beat. You've never seen anything like this before, not during your waking hours, anyway. You have either hooked into a real, legitimate dragon, or a brand new species. Either you are dreaming this, or else you don't know a fish when you see one.

Without doubt the latter is the case. There are certain to be various species with which each of us has had no experience. We may be well informed about the common fishes, yet none too familiar with those unusual species, most of them not ready biters, which from time to time give us a start, a thrill, or both.

Although none of them is in the Panfish category, I think we should look briefly at several such fishes, which we may tie into by accident while fishing for something else. I am really disappointed that we have to be brief about these fellows. They are some of the most interesting species in our waters. A whole book might be given up to them, and not lag in interest for a single page. The Gar, the Sturgeon, the Paddlefish, the Bowfin, the Burbot, the Eel—those are the evil-eyed devils of fresh water whose case histories almost without exception go far back into those periods prior to civilization, when *real* dragons stalked the earth.

I have no intention of attempting to outline specific fishing methods for these fishes, particularly since my experience with them has been very likely the same as yours—that is to say, of a most casual sort. There are, of course, certain fishermen scattered

here and there who have made Gar-fishing, Eel-fishing, etc., an important part of their angling art. For those who have done so, a rousing cheer for their cleverness in forcing species generally conceded to be outside the Game Fish class to come in and make their bows. Such inventiveness is most certainly to be commended.

Thus, it is not out of lack either of interest or respect that I choose to pass over this subject only in brief. I believe, however, that we may bring pleasure to a greater number of fishermen by merely trying to introduce these fellows and to cover some of the less well-known facts about them.

The Gars, for example, have absolutely nothing to recommend them to the age in which they live; and yet, they are intensely interesting fishes. Just recently I mentioned to someone the fact that the Gars, as far as can be ascertained, have not a single natural enemy. This person said, "How, then, can they be of any use?"

I think I know the answer. The Gars have already served their useful purpose, and are now coasting along on the reputation of past deeds. You see, they are definitely a carry-over from past ages, the remnant of an ancient family. In this age, they find themselves among strangers, so to speak, with no present ecological usefulness to serve. However, at some time in the distant past, they were an important and worthwhile link in the chain of that continuously creative process—evolution.

The living species of freshwater Gars are peculiar to this continent, although fossil Gars are found in Europe. These fishes do not have scales as we know them in other species. Their bodies are covered by diamond-shaped, scale-like plates, which are coated with a very hard substance much like enamel. Such scales are called *ganoid scales,* and the covering is known as *ganoin.*

It is interesting, I'm sure, to recall that Gar skins were used by early Indian tribes in certain localities for breast plates. It is said that these skins would turn the point of spear or arrow. Be-

fore the advent of steel plowshares, Gar skins were used to cover the wooden cutting edges of plows. I have read that this usage still obtains in some rice-growing sections of our country.

It is quite possible that you have seen Gar skins in use as coverings for novelties, picture frames, etc., for some sections of the Deep South, particularly Louisiana where Gars thrive, market a few skins each year. Little use is made of the flesh. In a way this seems odd, for the meat is white and fine grained and apparently as good as any other. Here and there Gars have been sold in the markets, after having their bills cut off and their skins removed.

Gars are most destructive, their diets being made up in great part of other fishes, which they catch by lying in wait, then gliding silently alongside the prey, and grabbing it with a quick snap of their long, toothed bill. Forbes and Richardson, working in Illinois on the State Natural History Survey, took sixteen minute minnows from the stomach of one baby Gar only two inches long!

In certain waters it is very difficult to know just what to do about them. They do not often bite a baited hook, and it is also difficult to catch them in seines, for their cylindrical bodies slip through the meshes. Around the turn of the century, Gars were quite well cleaned out of Chautauqua Lake, in New York State, by the use of pound nets.

Now and then a Gar will manage to get hooked on sporting tackle; and when this happens, believe me, a battle royal follows. These fellows are tough, with all the hard-bitten characteristics which millions of years upon this earth have built up in them. No natural enemy could make even so much as a dent in the hide of a Gar, and they do not often harm themselves accidentally because of their excellent armor.

Some fishermen have found sport with Gars by snaring them with wire loops. The wire is run through a minnow, then formed

into a noose, which is dangled in waters known to be feeding grounds for the quarry. When a Gar snaps at the minnow, the fisherman yanks the noose tight, catching him by the bill. You can imagine the tackle-smashing fight which ensues!

Gars are common throughout the Great Lakes region and the Mississippi drainage, and are especially abundant in the South. We have four main species, all of them sluggish creatures given to lying for hours motionless in shallow waters over mud or sand bottoms, yet capable of amazingly swift movement when it is necessary. In the wintertime they become extremely sluggish and benumbed, and do not break water with their bills to gulp down air, as they often do in the warm months.

The most common species are as follows:

The Long-Nosed Gar—*Lepisosteus osseus*
The Short-Nosed Gar—*Lepisosteus platostomus*
The Spotted Gar—*Lepisosteus productus*
The Alligator Gar—*Lepisosteus tristoechus*

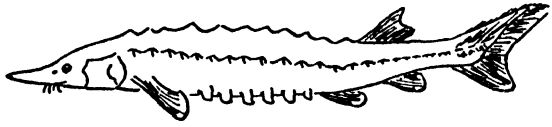
This last-named species is the shark of the fresh waters. It has large teeth, and grows to tremendous size, some specimens having been taken which were nine and ten feet long. It is said to grow much larger, up to twenty feet. This is a most vicious and even dangerous fish. There have been well substantiated reports of its attacking fishermen and others in the Deep South. It is sometimes taken on sporting tackle, and even shot by archers.

The Sturgeons are another race of ancient fishes which have survived to the present age. They are as mild in their habits as the Gars are vicious. There are numerous Sturgeon species throughout the world, many of them anadromous fishes, but here and there one—such as the Lake Sturgeon, *Acipenser fulvescens*—which is strictly a freshwater species.

Although the Sturgeons were once numerous, they are such excellent food fishes, and their roe is so prized for caviar, that

over-fishing has greatly depleted their numbers. The Sturgeon is one of the largest of the fishes found in fresh waters. Specimens of a hundred pounds or more were at one time quite common, and still may be in some sections. I believe I recall having read of an anadromous Sturgeon, taken in a Western river, which ran upwards of a thousand pounds.

They are for the most part bottom feeders, and go poking and rooting in the mud, gathering up crustaceans, worms, small mollusks, insect larvae, small fishes, and vegetation. Their elongated



Sturgeon

beaks are very hard, and are used like shovels to stir up the mud. Often, when opened, the intestines of a fish will be found packed with mud.

Sturgeons do not have scales, but have, instead, a number of isolated bony knobs. The hard snout, the barbels about the mouth, the odd shape of the tail, the bony knobs along the body, all lend to the Sturgeon a strange appearance, reminiscent of past ages. In many waters it is unlawful to take Sturgeon. A large one, hooked accidentally, is capable of a rugged battle. They are, of course, essentially fishes of the large lakes and rivers, which tends to make sport fishing for them something of a hit-and-miss proposition, in view of the fact that their numbers are no longer great.

Occasionally a salt-water Sturgeon is taken on hook and line during its spawning run up into a freshwater river. I believe, in fact, that I mentioned earlier having read of a fisherman who catches them on set lines, which he attaches to heavy rocks. Once hooked, the fish drags the rock with him, threshing wildly about

in the water. The fisherman then takes up the chase in his boat. At first thought, this may not seem like much of a sport, but no doubt actual participation would have its own kind of excitement. At least it is a *different* approach!

We have another "dragon" swimming the waters of the Mississippi Valley, south throughout Louisiana and Texas, and north to Minnesota and Wisconsin, which is probably the most remarkable of our freshwater fishes. By most fishermen he is called the Spoonbill Catfish. This is a complete misnomer, for he is no Cat-



Paddlefish

fish at all, but a *relict* species—that is, a leftover from former ages. Apparently he put on such a fine show for the various dragons and monsters of prehistoric times that he was held over to do his clown act for present-day civilization.

His real name is the Paddlefish, *Polyodon spathula.* The scientists have had quite a struggle with this old boy, down through the ages. In the late seventeen hundreds, one scientist said he was a species of Shark. Another later scientist apparently got hold of various specimens, for he described the fellow under three different names, and finally got excited about his great new find which he stuck in as a "singular new genus of sharks."

If you would like to become an expert on a certain group of fishes, and do so the easy way, then the Paddlefish is definitely your subject. As far as science knows, there are but two genera of Paddlefishes existent in the world today. Each of these genera contains but one species, one located in China, the other in our country. Undoubtedly the Paddlefishes were once abundant and

separated into many species, for various fossil forms have been found.

Scientists are interested in the Paddlefish chiefly because of his nearly boneless skeleton. Even his spinal column is formed of cartilage, and it is through such fishes that science is enabled to trace the evolution of the bony fishes of today.

Fishermen are interested in the Paddlefish for several reasons. First, perhaps, because of his odd construction. He has no scales. His body is plump and rounded. His spoonlike bill stretches out several feet on the end of his snout. In addition to his value as an oddity, his flesh is deemed a delicacy by those who habitually partake, and the roe makes excellent caviar. Although it was thought at one time that he would not take a baited hook, some fishermen have learned to catch him on small baits of worms and clams, etc. There is no doubt of his prowess as a tackle-smashing battler, and fishing him is one of those special thrills which must always attach to the different fish.

The Paddlefish grows to a large size, one hundred and fifty pounds or more, but the usual run of specimens is much smaller. It is odd to consider the fact that such a large fish feeds almost exclusively on tiny organisms. Whether he stirs up the mud with his paddle, then strains out food particles, no one seems to be quite certain. Some say Paddlefishes fight with their bills. This theory has arisen, no doubt, because specimens are often taken with their bills scarred or broken off. Probably the spoon-shaped bill has some use related to food procurement. The species is never found with mud in its intestines, and therefore must be most adept at separating the tiny objects of food which sustain it. The huge mouth and the excellent straining apparatus in the gills confirm this.

Let us now have a quick look at the Eel. Probably many fishermen, particularly the Bullhead enthusiasts who fish at night, have at one time or another tied into an Eel, and had the start of

a lifetime, once the "thing" was landed, thinking that they were fast to a snake. Although the fact is often not recognized, the Freshwater Eel is actually a fish. The skeleton, it is true, deviates somewhat from that of our higher fishes, the fins are altogether different, etc., but the relationship is true.

The life history of the Eel baffled scientists for centuries, chiefly because the young are so different in appearance from the mature Eel that they were not recognized as having any connection. Eels spawn in the sea, and die immediately after. The young drift to the coasts, and finally enter brackish or freshwater streams. Here they live for several years, many of them traveling far inland. When they reach maturity, they accomplish the long trek back to salt water, and make their way to the spawning grounds to complete the cycle.

At one time Freshwater Eels were abundant in the Mississippi Valley, and the upper waters of the Mississippi system, but the construction of various dams and obstructions has made them quite rare in far-inland waters today. They enter fresh water from the Atlantic only. There are no Eels west of the Rockies. In fact, there are none at all in the Pacific nor any of its islands.

You should by all means take time to do a bit of research on the Eel. It is a most interesting fish. A voracious and generally nocturnal feeder, it gobbles up various fishes, dead or alive. It bites readily on almost any kind of bait, and the flesh is highly esteemed. Eel skins have been used for centuries in the manufacture of such articles as high-grade whips and book bindings.

One of the most intriguing facts about the Eel is its ability to leave water and travel overland. It is not only capable of great swimming speed, but does very well on its overland jaunts to damp meadows, also. Eels kept in aquarium tanks often have been known to climb from one tank to another seemingly without effort, and have even remained for as long as twenty-four hours out of water without having sustained mortal damage.

Along the East Coast, of course, Eels have always been a common sight, and have been much fished by many persons. Usually, however, the idea was food and not sport, although there is no doubt of the Eel's ability to put up a scrap. His snake-like figure, covered with its tiny, embedded scales, is made to order for battle.

The next "dragon" of our passing review is a fellow with a bad reputation in almost every place where he is known. He is the Burbot, *Lota maculosa*, known variously as Lake Lawyer, Ling, Gudgeon, Long-tailed Cat, and Eel-pout. The Burbot is a sly, lurking fellow who lives in deep northern waters, from the Great Lakes east and northward, west into the Columbia River drainage, and on into Alaska, the one freshwater representative of the Cod family.

No doubt, thousands of us have fished in waters where the Burbot lurked down under us somewhere, and were never aware of his presence. He usually hides in deep retreats during daylight hours, then glides forth at night, his sharp eye ever up to some deviltry. On the few occasions when a fisherman hooks one, he is quickly made aware of the fact that he is fast to a fighter, for the belligerent Burbot isn't in the habit of taking any back talk. Just what he is fast to, the average fisherman doesn't know, even after he's landed it. So seldom is the fish seen that few sportsmen are familiar with him.

Oddly, although the salt-water relatives of the Burbot are among the most important of our food fishes, this two-to-three-foot denizen of the freshwater depths has always had the closest thing to a zero value of any fish we can name offhand. He not only tastes rather flat and uninteresting, he also smells mighty bad when brought into the boat or out upon some northern stream bank. Perhaps this is one of his protective measures. His looks aren't exactly beautiful, either, although he does have a certain rugged symmetry.

I do not know of any specialized fishing methods for Burbot, except that he is sometimes fished through the ice in the North. Neither do I know of any fishermen who have made a specialty of him. I have no doubt, however, that the Burbot could be turned into a real sporting proposition, even though the fisherman didn't care to turn him loose in the skillet. His destruction *might* very well be an excellent conservation measure, for he is most destructive to other fishes and their eggs. He will kill fishes



Burbot

as large as himself, and even larger, the Whitefish being one species he considers a great delicacy.

The Burbot is a good example of a destructive species which seems to have nothing to recommend it, yet one which should be studied thoroughly before our conclusions are too definitely and finely drawn. I have purposely said some rather derogatory things about him, the better to emphasize what I am now about to say.

We should always remember that no creature is devoid of some worthwhile attribute. We only *think* certain ones are, because we have not been clever enough to find among them qualities which we might adapt to the good of civilization. For many years fishermen have destroyed Burbots whenever they chanced to catch them. In this process, many thousands of fish have been put to no use whatsoever. Today, at Lake of the Woods, there is a small plant which is in the business of processing Burbot livers for the oil they contain. Some few years ago

this oil was found to be very similar to the cod-liver oil which comes from the marine Cod.

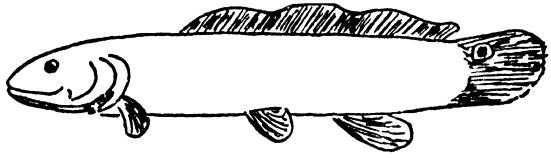
Thus we find a species of fish which is destructive to other fish species and of little value to the sporting world, presently turning out to be perhaps *more* valuable than that which he destroys. This sets up a problem which certainly should not be settled by the personal opinions of individual and perhaps prejudiced anglers. That is why I said the destruction of the Burbot *might* be a good conservation measure. Perhaps it would. And again, perhaps the economic use to which this species is now being adapted will eventually be of greater value than the amount of his destructiveness. Oddly, then, we might discover that we should set out to propagate the Burbot in controlled abundance in certain regions, rather than to attempt elimination of him altogether.

I cannot help being impressed often by the fact that it is from these rough, ugly species, many times, that our most pointed lessons in conservation may be drawn. It is purely and simply a matter of prejudice having obscured, in the past, any attempt to make good citizens out of renegades. That old saw about the silk purse and the sow's ear is definitely outmoded. Some high-grade billfolds have been fashioned from the ears of some extremely shelly-looking sows!

Remember it, next time you see the Burbot either in print or in person. You'll know him, all right. He is large and long, dark olive-brown, with marbled markings reminiscent of reptiles. His head is small, but broad; his eye small and sharp. He has a short barbel on each nostril, and one beneath his chin. He appears to be scaleless, but he actually has small scales embedded in his skin. Perhaps his fin arrangement is his best tag. He has two dorsals, the first short, the second very long and low, and only slightly separated from the tail. The anal fin is also only slightly separated from the tail, and is very similar in length and

breadth to the dorsal. Oddly, the ventral fins are attached ahead of the pectorals.

The ugly devil I've chosen to accept the bow music for the last act in this parade of the "dragons" is a fish I cannot help admiring. He is reviled by almost every fisherman with whom I've ever come in contact. His name is little short of a cuss word among the more discriminating fishermen—and yet he is without a doubt one of the gamest fishes that ever bent a rod.



Dogfish, or Bowfin

He is the Dogfish, Bowfin, or Grindle, depending upon where you cross purposes with him—*Amia calva*, only existing species of an ancient and once great and abundant race. Fossils of his ancestors are scattered throughout the European countries, but we in this country are blessed—or cursed—with this single existent missing link, who is not only individually tenacious of life, but also doggedly determined to carry on in an age to which he does not properly belong.

From the scientific point of view the Bowfin basks in the importance of the glowing light he has shed on the evolution of our modern fishes, for his structure contains both the characteristics of prehistoric and primitive species and the marked features of modern, Herring-like forms. From the conservationist point of view, he is an ogre, preying viciously and voraciously upon all good little fishes, and big ones, too, for that matter. In the view of the sportsman, who speaks more directly than the researchers and the protectors, he is usually a plain damned nuisance.

In many archaic species the air bladder is richly vascular—that is, able to absorb oxygen into the blood stream. It would not be true to say it acts in the capacity of a lung, but it would be correct to say that it is an auxiliary to the gills. In such unspecialized fishes as the Bowfin, which have existed *because of* their lack of specialization, the air bladder is connected with the pharynx, which enables the fish to shove his snout above water and gulp down air, a portion of which is used to augment the oxygen taken in through the gills. Thus, the Bowfin's very degeneracy enables him to stay out of water for long periods, to have a complete disregard for pollution, and to live contentedly in practically any foul situation. He is a sort of artist in his way, living his life untouched and uninhibited by ugly surroundings.

I cannot think of a fish whose demeanor can vie with the rugged old bowfin in toughness of expression. His long, thick body with its large scales, its long, low dorsal fin and its rounded, sturdy tail, his gimlet eye, his strong jaws and teeth, capable of slashing a two-pound fish in half at one snap, his belligerent smirk —all of these attributes are physical expressions of his "to hell with everything" attitude. His flesh is pasty and soft and tasteless, except when it is smoked, when it becomes delicious; he is a lover of shallow, sluggish, muddy waters of sloughs, lakes, and rivers; he will eat any sort of animal, from fishes and frogs to worms, crawfish, and mollusks, and will even greedily devour meat. In short, everything about the Bowfin represents the loud-mouthed, thick-headed gangster type—and *yet*, with all that, I will still stick to my story that he is one of the gamest fishes in existence!

Many fishermen have taken an occasional Bowfin. A few of the more astute Eastern anglers, some years back, began to get wise to old *Amia's* sporting possibilities. He will take live bait and will also hit slowly trolled artificials. These smart Easterners took up Bowfin trolling, and found they had unearthed sport of a very excellent kind.

Meanwhile, however, scientists have been urging for years in many quarters that the Bowfin be destroyed. Then, recently, it was found that his liver contained an abundance of vitamins, and lately he has found himself in northern latitudes giving this organ for the good of humanity. All of which just goes to show that we are youngsters in conservation, inclined at times to pick up a dust particle ground from the diamond of Truth—and to get quite excited over the supposition that we have found the whole rock!

I will not contend that the Dogfish should be encouraged to propagate generally. That would obviously be silly. We would not, in fact, allow our best Game Fishes to become indiscriminately abundant in all waters. This fellow should be controlled, exactly as other more highly regarded fishes are controlled. But he should definitely *not* be destroyed. Perhaps a million Dogfish are worth more to humanity in a "livery" way than are a million Bluegills. Who knows? If we can have both, so much the better.

And while I'm at it, I'm willing to give away an extra prize with this package of fishing philosophy and economics. To wit: I can show you a hundred ponds within a day's drive of my birthplace that are, in their present, unimproved state, absolutely worthless to the sportsman. Given the financial backing, I could also show you, I'm betting, a way to bring literally swarms of fishermen to those very spots—sportsmen who were out, not necessarily for food, but for fun. Suppose these little mudholes were surveyed for their possibilities as Bowfin factories? Suppose they were properly screened to avoid accidental stocking of other more fishable waters, and properly worked to build up a healthy Bowfin crop? And then, suppose, one day, you took your rod and spent an afternoon fishing one of those potholes?

What do you think the result would be? You, my friend, would have one of the most exciting days of your fisherman's life! A hooked Dogfish is the most cantankerous roustabout you ever tied into. He fights a dogged, slashing battle, boring and

running and ripping through weeds and debris in a way to make you pray for your tackle. And he never, never gives up, even after you've got him out on the bank—yes, even after you've lopped off his head!

Well, it's an idea, anyway. Those same ponds very likely will never be touched by state agencies. They could even be turned into lucrative business ventures, raising sport fish and vitamins at the same time. Strange things can, and do, come to pass—when a fellow works at them.

In case you've never been introduced to the Bowfin, you'll find him a fellow with an olive-green back and sides, a greenish white belly. His long, low dorsal fin, but slightly separated from his tail, has a couple of dark bars running the length of it. The male is marked so that you can't possibly mistake him, with a large orange and black spot at the upper base of his tail. This spot is brilliant during spawning season. Also, although it is not generally recognized, the female has an indistinct spot, barely noticeable, in the same position. Mature fish are upwards of two feet long, and will weigh as much as ten pounds.

The range of the Dogfish is throughout the Great Lakes region and the Mississippi Valley, south to Texas, and, on the Atlantic slope, from the Carolinas south to Florida. Young Dogfish make excellent Pike bait, because they live so long on a hook. Think it over very carefully, though, before you use them, particularly in lakes where the Dogfish does not already exist. You might be responsible for starting conservation in reverse, if some happened to get free.

Well now, that about winds us up on the bad dreams of your angling escapades and the dragons which may often cause them. If there's a moral to be drawn from our brief talk about these rough-and-tumble *relicts*, let it be this. Let's stop grousing about those species we deem unworthy of our waters. Let's stop blanketing them with a "NO GOOD" sign, and try instead to search

out ways and means of turning them into worthwhile citizens. Every species has some attribute which can be woven into the economy or sport of the nation, even though measure of control may be necessary in certain places.

Let's admit, just for a change, who it is that's been wrong all these years. The fish were here first!

CHAPTER 16

Midget Department

ALWAYS THERE WILL be certain days when the fisherman goes forth at dawn with high hopes and great confidence, only to discover that his hopes have been shattered by lack of piscatorial co-operation from his favorite, his confidence unhinged by the failure of his wiles and his favorite lures. There are three ways in which we may react to these exasperating circumstances.

We may throw down our tackle and jump on it, while tearing handfuls of hair from our heads. We may resign ourselves to the empty creel and the unpredictable moods of our quarry, and go home to answer the forthcoming jibes with the statement, "Well, that's fishing; that's what keeps you going back." Or, we may perhaps discover a way to do something far more constructive than either of these courses.

Let me suggest one possible salvation by telling you a story. On the map of Michigan there is a small, meandering black line which indicates a stream called the Sugar River. How that name came about, I do not know; but there was always something about the sound of it which intrigued me. One spring I asked numerous questions of residents in the vicinity regarding the quality of the Trout fishing to be had in the Sugar. These people seemed surprised that I didn't know about the fine Brook Trout there.

I started out in search of the Sugar, and after several false starts down ill-kept side roads, I found it. To me there is something tremendously exciting about becoming acquainted with a new stream. You do not rush boldly in and force your friendship upon an unknown stream. You introduce yourself cautiously. You look at it, test it, feel for the atmosphere of its surroundings and its inner qualities. You search out the hidden facets of its personality. And you wait, it always seems to me, for the stream to accept you as a friend, or reject your advances.

The Sugar and I were friends immediately. My great anticipation was not dimmed in the least when I broke over the top of a wooded hill and saw it piloting its waters along a beautiful and curving course through the green valley. I had the feeling that I must certainly get a fly down upon it quickly, for surely Trout were waiting in abundance. The Sugar is a beautiful piece of water; and if ever white swirls and deep pools looked "fishy," those did that morning.

By noon I was practically in love with the physical aspects of the Sugar. It had everything a stream should have to make fishing it a joy—everything, that is, except Trout battling and flashing at the end of my line. I kept saying to myself, "There simply *have* to be Trout here. This is too perfect." Because the stream was so beautiful, I could not feel like blaming it for my lack of luck; and I will say here that I fully intend to fish it again, al-

though I have never yet taken a Trout from it, even in three attempts.

It has Trout, all right. I simply missed them. But that is not our story. The point is, I liked the *place* so much that I didn't want to leave it. Yet, I tired after a time—as fishermen usually do—of working away with my dry flies and getting no results. I tried numerous other tactics. The result was the same. Then, suddenly, while using a small nymph in a stretch of rocky, swift water, I had a fine strike. I set the hook, and a thrill went through me. I had found the answer! Swirling white ripples, and a nymph tumbling through them.

The fish was obviously not large, but let me tell you it bent my small rod most satisfactorily, and fought gallantly. When I brought it to the net in the cloudy water, what do you suppose I had? An eight-inch male Common Shiner, dandied up gaudily in his spring spawning costume of mottled bright salmon pink, his fins bordered flashily with the same color, his head studded with the tiny, horn-like tubercles he sprouts during the breeding season!

I will not deny that for a moment I was greatly disappointed. I had pictured a legal Brook Trout, of course, battling in the white water. I had to admit, however, that this little Shiner was quite as beautiful as the Trout I had expected to net. And before you disagree, remember that I was not comparing the two directly. The Brook Trout, of course, would have exhibited an altogether different *type* of beauty. That is not to say that it would have been any more appealing to the eye. This Shiner was, indeed, a daintily tinted little fellow.

Neither could I deny that he had fought well. If I wanted to be very fair with him, even in my irritation, I would have to admit to him that he had given me not only more than I would have expected of him, but altogether as much as I expected of a Brookie his size. Had he not fooled me until the last moment?

I thought of the skillet lying back in the car. I had planned on taking a mess of Trout, building a fire and having my evening meal there on the bank of the stream. This kind of fish would certainly be extremely bony, and very likely quite tasteless. I released him. But not in disgust. No, I had but to alter the idea which I had brought with me into the stream—and I could still have a good day of sport in these surroundings which so appealed to me.

Does that sound difficult, or contrived? It isn't. Not at all. Look here, you go fishing, remember, primarily for fun. What is the difference how you get it? My lack of success was no fault either of the stream or of the fish. By a change of mental attitude, I could still save the day. Any fisherman would be a fool not to attempt it.

In fact, the practice of this sort of mental discipline among fishermen generally would pay off illimitably in greater amounts of sport and far better morning-after temperaments. When you have butter, you put it on your bread. When you don't, you eat bread. The lack doesn't change the taste of the bread. You only imagine it does. Bread alone tastes good, if you turn your attention to tasting it, instead of griping about lack of grease!

I do not mean to take the stand that you should set out to become an expert Shiner or Chub fisherman to the exclusion of more capable species. I mean only to suggest that you may at times save an otherwise dull day by making the acquaintance of some of our less consequential fishes, with a view toward sport. Luckily, these fishes are rather abundant in most of our lakes and streams. They are primarily forage for our socialite Game Fish, and thus serve a worthy purpose if never angled after at all. Whether some or all of them are detrimental in certain ways to the larger Game Fishes, I am not prepared to say. I feel only that, as long as they are with us, we may as well make some use of them.

This brief chapter, then, is purely for the purpose of bringing them to your attention. It would be a difficult procedure for us to set about trying to list and identify all such fishes. Most, if not all, of them belong to the Minnow family, *Cyprinidae*. Not only is this a very large and diversified family, but several of the species of which we're speaking are recognized as having different races, or varieties, in different sections of the land. We will, therefore, simply name a few of the smaller fishes which have sporting possibilities, and leave a deeper study of them to your own individual judgment and interest.

Without exception, these little fellows are more or less bony, and not particularly good as food fishes. On the other hand, in some sections they are thought of as good food fishes, chiefly because better fishes are scarce. Also, in some sections, these smaller fishes, when smoked, are considered highly palatable. In Michigan's Upper Peninsula, for instance, smoked Chub is looked upon as a rare dish.

We shall probably have to choose such fishes by size, for the majority of the Minnows are far too small to be possible as Game Fishes. Of the larger ones, the Horned Dace, often called Creek Chub, or simply Chub, is one of the best. He grows from six inches to a foot in length, and has a scientific name almost that long, *Semotilus atromaculatus*. He ranges over a wide territory, from Montana far into the eastern states, and south to the Gulf.

This little fish is mainly a creek inhabitant, although he may be found in muddy ponds. Those in creeks make the best sport, a fact which is true of most of the smaller fishes. This, I suppose, is partly because swift waters force fish to lead active lives and thus build up a stamina that quiet waters do not encourage; and partly, no doubt, it is due to the fact that often such species are the largest of their habitat, and therefore likely to be more ruthless in their way of life.

I don't suppose you will often set out to fish for Horned Dace, but in the deep pools of small, swift streams he may force you at times to recognize him, when he grabs a grasshopper or a small streamer intended for larger game. He is a drab-colored little fellow, except during spawning season, when the male has a tinge of orange or rose beneath, and a red-bordered black spot on the dorsal fin. The small tubercles which appear on his head during this season are responsible for his common name. I never hear it without recalling with a smile the woman I met on a Trout stream, who had apparently never seen the name in print. She kept calling to her husband now and then that she had just hooked another "Horned Daisy."

Most of the midget species in our present category have spawning-season tubercles formed on the heads of the males. The Common Shiner previously mentioned, *Notropis cornutus*, comes well supplied with them in spring, and the colors of the male are beautiful. This fish is shorter and deeper in the body than the Horned Dace. His maximum length is roughly eight inches, but it seems to me that he is a better and more enthusiastic battler than the Dace. I have taken a great many Common Shiners in the very swiftest sections of Trout streams, and have learned to have great respect for the spirit of the little fellow. He also has a very wide range, from the Atlantic to the Rockies, and deep into the South.

The River Chub, *Hybopsis kentuckiensis*,* is another good midget fighter. He is often colloquially called the "Horny-head," because of his spring tubercles. Also, in spring spawning season, the head of the male is swollen to form a sort of crest, which may be even higher than the arch of the neck. The River Chub grows

* To avoid confusion, I have used the scientific name appearing in Jordan & Evermann, and Forbes & Richardson. Later writings have used several different names.

upwards of ten inches long, and has a range nearly as great as that of the Common Shiner. This lightweight bites with a real whacking strike, and gives an excellent few moments of sport.

He is conservatively colored, dark greenish above, with a lighter green wash along the sides, fading into gray or yellow on the belly. A rather good mark of identification for him is the round, pale red spot on each side of the head, just back of the eye. In the spring this spot is a gaudy, brilliant red on the males.

I recall an experience I had with this little fellow one spring while attempting to fish Pike with streamer flies. I was having no luck, so finally I baited a small hook with angleworm and set out to catch a Sucker for bait. I let the worm drift and roll along the bottom of a quiet pool in the river. Nothing happened, and without much thought I allowed it to drift on into a narrow ripple. Instantly I had a regular he-fish strike. But I failed to connect. I tried the spot again. Again the strike. After several tries, I moved along so that I could see what was after the bait. Here were a dozen or so River Chubs, batting away at that worm as viciously as gamesters five times their size. I became so intrigued with inventing a technique for catching them that I wasted most of my alloted Pike-fishing time—and consequently went home empty-handed.

There are numerous other Chub species which give good sport in restricted regions. For example, the Utah Lake Chub, which grows to a foot or more. His name is *Tigoma atraria.* This fellow is a fair eating fish, and is also a fairly good fighter. He has a reputation, however, for destroying many young Trout.

Probably one of the best known of the small species is the Golden Shiner, which ranges throughout the eastern United States, southern Canada, and west about as far as the Dakotas. This Shiner, *Notemigonus crysoleucas,* is nearly always abundant in our quiet ponds and sluggish streams. He is a shapely and beautiful, greenish-gold fish, somewhat Herring-like in appear-

ance, and grows to a maximum length of twelve inches and a weight of over a pound. Most specimens taken are much smaller.

The Golden Shiner is an important forage minnow. He not only makes good bait for larger fishes, but is also a decent Panfish in his own right when large enough. He will take an artificial fly, and may also be caught with the usual live baits. I have never taken any on dry flies, but wet flies often have intrigued them. I do not believe, though, that he can compare with some of the swift-water midgets in fighting qualities.

Several distinct races of this Shiner are recognized in various sections of his range. The coloring may differ greatly among them, and the shape, too. This has undoubtedly given rise to the use of various common names, depending on where the fish is caught.

We could go on at great length about these common fishes. Undoubtedly certain fishermen in restricted areas have their individual hobbies of small-fish angling. They are to be congratulated on their good sense in making the best of what they have at hand, and of what the midgets have to offer. It is not, therefore, out of lack of respect for the views of such as they that we so briefly treat these fly-weight contenders. It is just that we must hurry along down the river.

Remember, though, before we drop the matter, that small fishes have their places in the scheme of sport, along with their larger kinfolk. Therefore, don't feel humiliated or irked about taking your bread without butter at times. It's a lot better than going hungry!

Slants and Angles

LET US NOW put aside our talk of species and identifications, methods and sport. Let us go back for a moment to look down once more from a great altitude upon that far-flung panorama of waterways in which these finned friends of ours pass the routine of their daily lives. With all our detailed talk, our delving into science, our consideration of fishing practices, it has been easy to forget that the beauty of those swift, slashing streams, those sluggish, winding rivers, those crystal lakes and ponds, still exists. Let us refresh ourselves once more, before we leave it, by gazing upon it from our previous vantage point in space.

Would you not be startled, now, if you were to open your eyes with the expectation of seeing all of that with which we began—only to find that it had completely disappeared? Look,

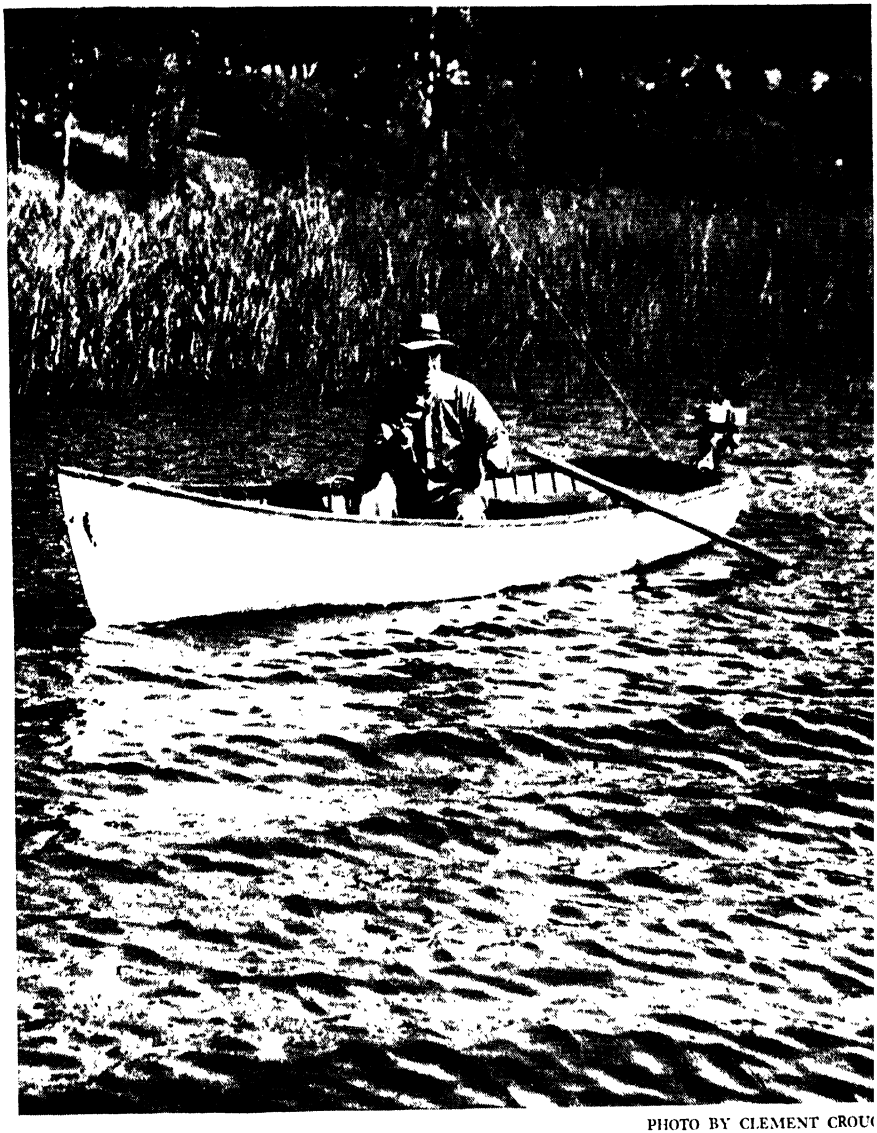


PHOTO BY CLEMENT CROU(

A hooked Dogfish is the most cantankerous roustabout any angler ever tied into!

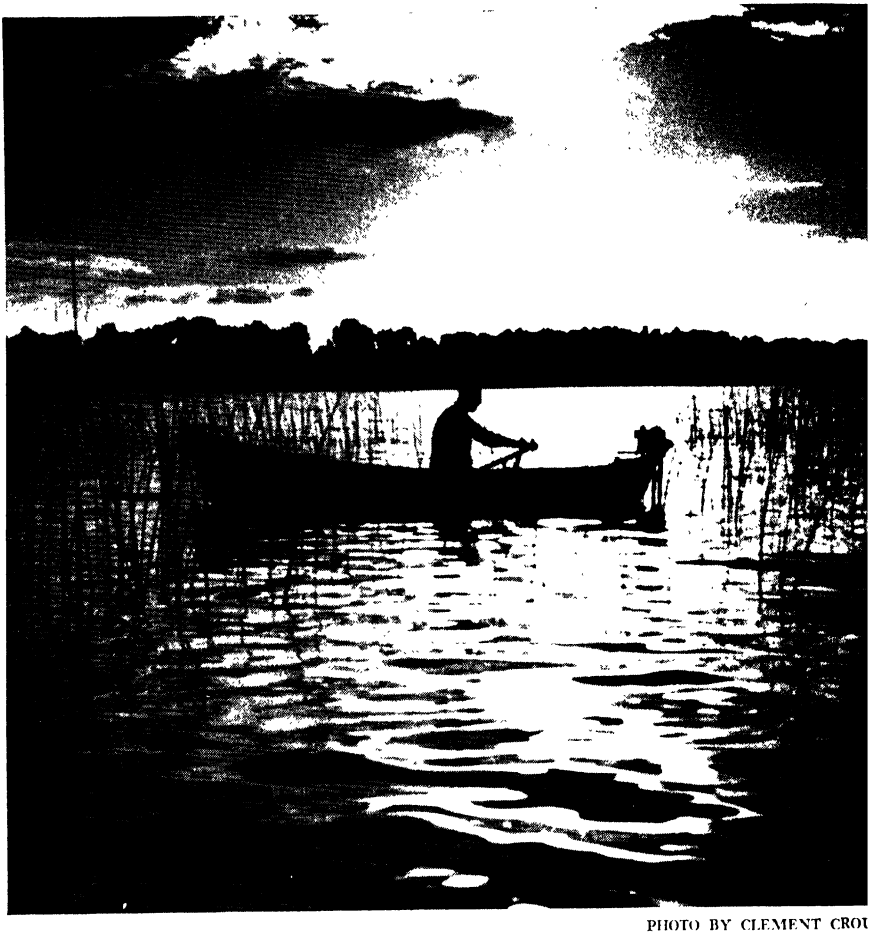


PHOTO BY CLEMENT CROU

The clouds, the trees, the sunsets, smells, sights, and sounds of Nature round about—without these, what would fishing be?

there below us. There is nothing but sand and rock, hard clay, boulders, red dirt. There is nothing but soil, and air, and sunshine. No plants, no animals, no insects. No lakes and streams. No fishes.

What a hideous sight for the eyes of a fisherman! What an alarming, incredibly ugly vista!

Yes, perhaps it is. And then again, perhaps this drab new panorama upon which we are now looking has beauty of a kind, even for us. Is it not the real and true framework upon which our potential sport is founded?

The water? Yes, of course, fishes are so constructed that they must have water in which to live. But that is but a minor contribution, we might say, toward their happiness and continuation.

However, if the sight of land alone alarms you so, let us put back the lakes and the streams. Let us allow them to chisel out their deep channels and their rounded depths instantly, right before our eyes. There. You see? There they are. The air and the sunshine, the soil and the water. Should we now add fishes to those lakes and streams?

Well, we can do that, if you wish it. We can fill those lakes and streams to overflowing with fishes of all kinds and sizes. But I warn you, you must look quickly thereafter, because they will not be there long. No, they will die as fast as our magic supplies them. They will die because, in the world where we've placed them, there will be no such thing as true ecology.

As we discovered previously, ecology means the relationships of species to their environments. True, those fishes down there have environments of a sort. They have air, sunshine, soil, and water. But those four primary materials which make life possible upon this earth—which make this earth—are but the raw materials out of which ecology is fashioned through the ages. Without the plants, the animals, the insects—without all animate and renewable things, there cannot be ecology. All of which is like

saying that without living things there cannot be life. An odd and redundant statement, no doubt, but one which covers great mysteries in the confusion of words.

You are probably beginning to wonder what I'm getting at. And so, I'll tell you. Haven't you—hundreds of times—looked at a stretch of water and thought to yourself, "What a beautiful piece of fishing water!" But did you ever stop to think that the water, as such, has very little to do with whether the fishing will be good or bad, or even with what kinds of fish you will take? The water by itself has very little, indeed, to do with the fishing. It is the soil, the *land,* primarily, upon which those fish depend.

Go one step further and you will see that, given the air and the warmth of the sun, and the water in its purest form, there had to be a beginning, a creation of some kind—however you choose to think of it—to give a starting point to animate life in its most simple form. From that point on, cycle was built upon cycle. The minerals of the earth were constantly redistributed —through erosion by temperature changes and the push of the air and the waters, through the chemical changes and metamorphoses consummated by the bodies of living things, and dead things.

As these forces worked for each other and against each other, starting from the bare, essential foursome of earth, air, sun, and water, and as the redistribution and sorting of non-renewable materials constantly took place over years counted in millions, the varied environments which we call habitats were created. Here, let us suppose, was a stretch of absolutely still, absolutely pure water, lying upon a stretch of land just as still and pure and barren. A microscopic kind of plant life came into being. It lay suspended in this stretch of water.

This tiny cell took water and sunshine, and, through the amazing life process of photosynthesis, it formed sugars and starches from these raw materials, meanwhile releasing oxygen, that primal requisite to animate things. This was the first step in the eventual

formation of habitat and ecology, for, potentially, there was life upon the earth, and there was also food, in the form of this tiny and flourishing plant cell, for some next-higher life form.

I realize, of course, that the subject I am attempting to approach is not one to be covered in a few thousand words. It is not one possible of explanation even with millions of words. But I should like to open the way to it, because it has often occurred to me that few of us pause to realize how complex is the system and balance of the bounteous Nature which surrounds us. We might spend the whole of our lives studying in detail one small habitat, one single acre of lake shore or stream bank—and not cover a hundredth of the potential in knowledge which lay beneath our feet. By touching briefly upon a few essentials building up to the ecology of our fishes, it is my hope to arouse in the reader a desire to know more. Knowledge for its own sake is worth while. The *application* of such knowledge to that great hobby of ours called fishing can make of it something greater and more interesting than ever we dreamed.

So then, let us build a little with those raw materials which surround us.

Our small plants—the diatoms and the algaes, perhaps—form food for tiny crustaceans, and for other infinitesimal life forms suspended in the water. If you were to take a few gallons of water from that deep blue lake whose waters look so pure and empty, and whirl them at high speed in a centrifuge, you would gather a small mass of amazingly varied microscopic life, called plankton, which, under a microscope, would open up a whole new and astounding world to you, a complete and practically self-sufficient civilization of which you are not ordinarily even aware. If you were to pollute the waters of that lake in such a way as to make life untenable for these efficient, microscopic organisms, you would also eventually destroy all other life. The next largest form would not only be affected by the pollution,

but its food supply would be wiped out—and so on up the ladder until nothing was left.

This minute life, then, forms the basis for the habitat we are building. Upon it the next higher forms feed, so that we pass on upward through the true worms, the mollusks, the water insects, the larger crustaceans. And we soon discover that still higher forms—the fishes, the birds, the animals—feed upon these, and upon each other. Thus we have piled cycle upon ever-widening cycle, and size upon size, building a foundation for the possibility of each higher life form by the preparation of a chain-like food supply.

Meanwhile, however, many illimitably complicated occurrences have been taking place, without which none of these forms could have existed either with or without food. All of these forms, in their stair-step sizes, have required favorable and extremely complicated sets of conditions to fit *their* particular needs. These conditions were dependent upon the various other forms of life which created them, and each one of these various other forms required a favorable condition, or *habitat*. But such favorable conditions, in each case, have in turn been dependent for creation upon favorable combinations of those primary forces and materials: earth, air, sun, and water.

These forces have continued their grinding and building, destroying and fashioning, and animate things have assisted by workaday living, and by dying. The continuous process of material redistribution has been progressing. Higher plants have taken advantage of proper soil and water and temperature conditions which made it possible for them to thrive. Fishes and insects, birds and animals, have taken advantage of the conditions created by the higher plants, plus the work of the primary forces. None of the life forms, from low to high, could have continued existence in abundance without the successful completion of all these other complicated occurrences and the changes each

brought about. Each kind of life needed food and shelter, hiding places for protection against enemies and the elements, and suitable surroundings for reproduction.

We begin to see now the appalling complications and interdependence of those elements of our surroundings which compose what we call "Nature in all its grandeur and *simplicity*." How could we ever set about garnering all its potential of knowledge? We should have to be schooled in physics and higher mathematics, in chemistry, botany, zoology, geography. We should have to know geology, and paleontology, ornithology, limnology, entomology—and so on and on seemingly without end.

Let us pinpoint the matter by looking down into a deep, clear pool where an old Rock Bass lies idly fanning his fins against the slow current. Now then, we must assume that this old fellow is happy and contented in his environment. He appears to be in good health; he has grown to good and solid proportions; he appears to have no desire to leave. In fact, the stream in which he lives has a good crop of his kind. Therefore, we may say that the Rock Bass species does not avoid this particular habitat. If conditions were unfavorable for them here, or grew unfavorable, they would either leave, or be destroyed—in which case, as we failed to find any of them, we would say that they avoided this particular habitat.

What are some of the influences which bear upon this old codger's daily existence? Let's list a few:

1. Rate of flow, or current
2. Depth
3. Size of the body of water—that is, space and room
4. Maximum high temperature
5. Minimum low temperature
6. Mean yearly temperature (He might conceivably stand short periods of high or low extremes, but the yearly average must be within certain limits.)
7. Type of bottom

8. Turbidity—that is, the amount of silt suspended in the water
9. Chemical analysis of the water
10. Chemical analysis of suspended material (A certain amount of silt or clay suspension might not bother him, but foreign material, such as sewage, etc., would.)
11. Latitude—meaning his geographical position as from South to North
12. Longitude—meaning the same East or West
13. Elevation above sea level
14. Flood conditions
15. Other erosive conditions
16. Drought conditions
17. Mean yearly water level
18. Food conditions
19. Competition for food
20. Competition for living space
21. Companion species; whether or not they are predaceous
22. Shelter

Well, there are a few. So you see, the daily life of this old Rock Bass, aside from the fact that he has no income tax to pay, is just as complicated as yours. Perhaps it is more so, for he lacks the power to *alter his conditions.*

Remember, now, that every other type of life which goes to make up the habitat which this single fish finds congenial has these same influences brought to bear upon it. If, let us say, a slight change is made in one of these many influences—and there are dozens besides these—it may not be of sufficient power to bother this old Rock Bass in the least. *But,* if the change is strong enough to alter the congenial surroundings for one other animate element of this fish's environment, he will eventually feel the effect.

Perhaps it might be only that the living conditions for arrowhead stalks in the shallows near his pool were so changed that life became untenable for that plant. This might so detrimentally affect the food and shelter of certain lower forms that they

would be destroyed, and, in turn, shade, bottom conditions, and food conditions would become so altered that the Rock Bass would find it necessary to leave. He might even die.

If you will look back over the list of influences which we made, and think carefully about each one, you will see that, in relation to our Rock Bass, the *land*, in almost every case, is responsible either directly or indirectly for the existence of each influence. Altitude means height of land. Current speeds are controlled by the pitch of the land. Turbidity is directly related to types of soil and rate of flow. It is also related to altitude, for upon altitude will depend not only the type of soil through which streams flow at any given point, how deep or shallow a channel they cut in relation to pitch of the land, but also what kinds of silt they will carry, and how far they will carry them.

The bottom of lake or stream *is* the land. Yet this bottom is changed or altered in relation to altitude, etc., by the types of vegetation and the types of small organisms, living and dead, which find such conditions suitable. Temperatures are controlled by geographical position. So are floods and droughts. Not only do all forms of life influence the abundance or lack of other forms in all manner of combinations, but each is dependent upon the amazingly varied combinations which come about through the numberless equations formed by those four primary materials—earth, air, sun, and water.

If we will take the time to think about these things, we will begin to see what an immensely complicated business conservation is. We will immediately recognize the fact that *soil conservation*, for example, is just as important to the sportsman in all its phases, as it is to the farmer—whether they affect him in the interest of more, or less, sport. So also is forestry. And stream and flood control. And drainage projects. And industry, which controls or disregards pollution.

It would seem, therefore, that we sportsmen have a far greater

responsibility than is at first apparent. There are almost as many fishermen in this country as there are wage earners. We are a great and important section of the population. And in our various activities lies the way to not only more, or less, sport, but to tremendous influences for the common good of all our people.

After even so brief a glance at the amazing intricacies of Nature as we have seen in these few pages, it should be an obvious deduction that the loose term "conservation" should not be bandied about by persons of meager learning. We should strive ever to facilitate the approach to better conditions, not only by attempting to put the most intelligent and best educated men into the proper jobs, but by self-education as well. Looking at the whole complicated picture, how could any one of us set himself up as an expert without first having made a very real attempt to *learn?*

The thinking about individual problems of conservation, you will have to do by yourself. It is only for the purpose of urging the reader to peer within the deeply interesting structure of Nature upon which our sport is founded that I set down these words. A small peep inside, added to your own original thinking may bring to you greater understanding of the complicated ecologies with which we must deal wisely and successfully, if our sport, influenced as it is by the push of civilization, is to endure in plenty. Perhaps, too, such a brief inside vision may alter bad habits which you practice today, or change good habits to better.

We are so quick to claim one species as beneficial and another as harmful, simply because we like to fish for one and detest the other. Before any great changes are artificially brought about in Nature's balance, much thought and learning should be applied to the specific conditions which exist. Added to the immense complications apparent in a habitat which has been building for centuries, are the quite as complicated relationships of fisherman to fishes, and of fish species to one another. If Nature has bal-

anced her budget successfully in one certain location, we can upset and confuse her economy immeasurably by eliminating or adding species.

Look back to our big old Rock Bass lazing in his pool. That pool is his home, his house. If someone cuts the trees along the stream bank, he will feel the effect as it comes down to him through the shock which other forms of life receive. Perhaps he will feel it mortally. Likewise, if we *remove* this Rock Bass from the balanced economy which equals the habitat of this pool, many other interrelated forms of life will miss him—some sadly, some gladly. Conceivably some living form of food which he greedily devoured will now become so plentiful that it will upset the lives and abundance of other species.

These changes will not *necessarily* all be bad. They can be changes for the better, too. That is, better as viewed through the human eye, which is, of course, the way we must view them. By poisoning out the entire fish population of a lake, and replanting, conservation experts have often proved that the new crop, artificially balanced, can be far better. Most of us, however, are not expert conservationists. Very few of us ever will be. But, as the world changes its general conceptions, we, as individual fishermen, must change ours. Fishing is no longer a complete right and freedom. It has so far felt but the most meager restriction. The future will be far different. As restrictions grow, and the ranks of participating sportsmen swell, our thinking must grow, and our practices change.

Last summer a friend and I stood in the center of a stream, casting our flies into a pool which lay on the bend before us. We took nearly two dozen fine Trout from that one pool, and all of them in the period of an hour. Think what a tremendous influence and bearing our fishing that afternoon had upon the overall ecology of that one small habitat! The shock of our exciting few minutes of sport sent thunderous reverberations throughout

every living cell related in even the most indirect way to that single pool.

Did we assist in balancing the congeniality of the gross ecology? Or did we disastrously upset a finely drawn existing balance? Neither of us knew. But we should know. In the years running so swiftly toward us, we shall *have* to know such answers, so that restrictions may be wisely drawn and enforced.

Thus it is that understanding of what transpires in the blue depths into which we fishermen peer takes on an aspect of something more than interest and delight in pure knowledge. Looking forward, it becomes a requisite. We are just now passing through what might be called the Age of Petty Bickering. We grouse because the fishing isn't like it used to be. Of course it isn't! Why? Because we forced our human influence upon otherwise comparatively stable ecologies. Whether for good or ill, we cannot bring back the past. The effort we put into grousing could be so much better spent in adding to our individual equipment for adjusting what we have left to the good of all!

Fishes affect each other in many direct and indirect ways. Here are two species, let us say, living side by side in a stream. They are fishes completely unlike. One is a Sucker, the other a Sauger. Their looks, their habits—everything about each differs radically from the other. Here, too, in this same stream, are literally millions of small Gizzard Shad. The habits of the small Shad are quite dissimilar, technically, from those of the others. Yet, the Shad has a very great influence upon the Sucker. By his prolific propagation, he forms easy and abundant food for the Sauger, thus relieving the Sucker of an immense amount of predaceous pressure. In turn, as the Sucker grows to good proportions because of the presence of his assistant, the Shad, *he* forms food for Northern Pike in the same waters. Thus the Northern Pike and the Sauger, instead of being in direct competition for food, hardly compete at all.

Do you see what complicated relationships Nature contains? Yet, by an understanding of such relationships we may turn them to our immense advantage. One species of Sunfish has been found to avoid a certain habitat. Another species of Sunfish finds that habitat entirely congenial. One kind of Sunfish is structurally fitted to crush small mollusks. Another is not. He needs insect life, etc. Thus, the two might be planted together in the same pond, assuming that small mollusks and insect life were in abundance—a fact which would have to be previously ascertained. Each species appears outwardly to be quite like the other, a fact which would lead us to believe that dual planting might be disastrous to one or the other because of direct competition for food. But deeper learning would show us that they would compete hardly at all, and would therefore thrive in each other's company.

Indeed, we fishermen stand on the threshold of an age in which we would do well to exchange our "Knights of the Angle" title for one more fitting and productive. "Scientists of the Angle" will look more proper, printed on the page of the future. And, pray tell, what is so frightening or irritating about that? Today we have the great opportunity to *know* the answers, rather than to guess. Perhaps the *results* of our future fishing never will be as good as Granddad knew, but the *sport* to be had in it, mirrored as it is in our greater opportunity for knowledge, and the enjoyment of that knowledge for its own sake, will beat Granddad's ten to one!

There'll Be Days Like That

WELL NOW, we've come a long way down the old river, and, as always, there comes a time when one must control the driving, tantalizing impulse to look around just one more bend. Fishermen have to reel in their lines at some given time and place, and people who write books have to find a place and a time to end them. They say that's the difficult part, and well it may be; but in this case there's a bit of a tale hanging in my mind, and a slice of angling philosophy to go with it, which I think should mark a fit ending to our long conversation about the common fishes.

The tale is about Uncle Snazzy, and such an odd one it is, even telling it without the slightest embellishment, that it could not help but spawn a philosophy to match, a philosophy to be labeled: "For Use On Those Exasperating Days When They Refuse To Bite."

You understand, of course, that there'll be days like that. All the fine tackle and all the theories and all the books and all the excuses and all the tricks known to all the experts who ever wet a line will be to no avail. Those days, I'm sure, are the days which force us to continue fishing, and so they, too, have their useful purpose. Tomorrow, no doubt, it will be better. Or the day after. Sometime, at any rate; and so we keep trying.

I am convinced, you see, that Uncle Snazzy was the greatest fisherman I ever met. He caught less fish than the worst angler who ever dunked a worm—all of which sounds like a riddle. However, it isn't. Uncle Snazzy was truly a *great* fisherman. He preached a kind of freshwater religion which was, in its way, humorous and at the same time startlingly sensible and serious, amazingly logical and useful. He knew intuitively the very essence of the idea we've tried to bring out in various ways in these pages—that fishing is a multifaceted means to enjoyment, with all manner of intriguing slants and angles other than the actual making of the catch.

I met Uncle Snazzy at a lake in Ohio, back in 1936, and promptly forgot him—until that first day when they weren't biting. Heading homeward with leaden tread, empty creel, and emptier stomach, I thought again of odd old Uncle Snazzy. Now his story is part and parcel of my mental fishing equipment. I wouldn't know how to do without it.

"Uncle Snazzy" was a nickname some village wit had thought up. Nobody knew the old gent's real name. He was in his seventies and he lived alone in a deserted shack, barely furnished at all, on the shore of this lake in Ohio where I spent a summer.

He had few of the things people ordinarily call the bare necessities, and he was somewhat of a laughing stock among the natives and the tourists. He was, they said, a lazy, worthless old bum.

"And besides," they added, "he's—well—not just right in the head."

One day I passed his shack on the lake front and saw him sitting on the back porch, smoking. His clothes were not the cleanest clothes I'd ever seen, and they were ragged. His gray hair was uncut and unkempt, and his stubble-bearded face had specks of black lake mud at the bottoms of its many wrinkles. The smoke from his pipe smelled as though a batch of kittens had been using his tobacco pouch for a bed. By the steps, floating in a pan of water, were a few Perch, still on the homemade stringer.

"Where'd you catch 'em?" I asked.

He waved his arm in a wide arc, mumbling past his pipe stem, "Yonder."

The lake was twenty-two miles around. "Yonder" took in a lot of territory. "How many'd you get?"

He shrugged, but he did not look at the fish. "Didn't count 'em," he lied.

I said, "If that's the lot of 'em, it's not many." There were five in the pan. "Fishing hasn't been too good lately."

He was instantly indignant. "Fishin's always good, young feller. Don't make no never mind how many you ketch. They's fish, ain't they?"

The natives, I decided, were definitely right. This old fellow was certainly not exactly normal in the head. I said, "Oh, I don't know. Anybody likes to catch fish when they go fishing."

He put down his pipe and leaned forward in his chair. "Young feller, I been farther out on a limb after a possum than you been away from home. I say fishin' folks are all fools. Git a big string, grin, and have their pictures took. That's all they want. Thinkin' more about goin' and comin' than they are about settin' and fishin'!"

I was struck by his sincerity, and somewhat amused by his ardor. "Know where I fish?" he continued after a pause. "Wherever folks claim they ain't bitin'! I look at stuff while I'm goin',

and while I'm settin', and while I'm comin' back. Sometimes I watch my bob. Sometimes I just doze and watch the clouds. Most times I just think." He picked up his pipe and glared at me.

I said, "What do you think about?"

He seemed to turn my question over in his mind, as though he was astonished at the ignorance of people in general. I could see a certain contempt come into his face. He took a few deep drags on his pipe. Then he said, "How old are you, young feller?"

I told him. He smiled cynically. "And you been fishin' since you was a kid?"

"Since I was a very young kid."

"Sure learn slow, don't you, feller." He wasn't asking me. He was *telling* me. "I can see you don't know much about fishin'."

I suppose it was very foolish of me, but I had a moment of anger. I said pointedly, "You still haven't told me what you think about."

He bridled up instantly. "At your age, young feller, if you been fishin' like you say, for years, you oughta know better'n to ask!" He arose quickly, shoved back his chair with an impatient gesture. "Young feller," he snapped, "you're a-wastin' my time!" He stomped into his shack and slammed the door.

I went on up the walk, chuckling. Today I'm not so sure it was funny. I don't agree at all with the natives who said this old fellow was wrong in the head. You know, he really *had* something, a bit of philosophy for all of us. The more I thought about him, the more I began to see how it is that the *true sportsman* is not interested in the size or the number of his catch. He is interested in the fish themselves, deeply interested, and in their mysterious ways, their curious comings and goings.

He sees fishing as something more than fish on a stringer. He is one who gambles his skill against the skill of Nature; and, at that, he always wins. For Nature, in denying him his catch on

certain days, still gives him the consolation prize of his surroundings—the sun, the trees, clouds, wild life, flowers, the sound of running water, the leap of a fish after an insect.

All of these things he sees, and, if he will but observe, a vista strange and wonderful will open before him—not necessarily in those far-off, secluded places; the same is true within a mile of home. Fishing and fish have come to mean the same to us—that is, the fish are the result of fishing—sometimes. What we fail to remember, many of us, is that fish are merely one part of that many-sided art of relaxation called fishing.

And so this you may think about on those off days. Fishing is a means to an end, not the end in itself. It is, or should be, on days like that, an art—the gentle art of doing nothing. Catching and landing a fish, while fishing, is but an exciting reminder, in the interlude of complete relaxation of body and purification of mind by the forces of surrounding Nature, that you have learned how to be lazy for a little while. It is the small difference between doing *something* and doing *absolutely nothing.*

Suppose you took away the sun and the clouds, the trees, the rain, the smell of hot, damp days on lake or stream, the sights and sounds of Nature abounding—but kept your equipment and your fish. What, pray tell, would fishing be? Why, it might as well be done in your bathtub at home!

So then, when an off day comes along, take it in stride. Don't be disgruntled, disappointed. Be a good gambler. Think, if it will console you in the least, what you're doing on those days for conservation! Find a way to squeeze the last drop of enjoyment out of a fishless day. Observe, think, relax. Wise old Dame Nature will show you wonders for body and mind and soul, if you'll but inquire.

Did you ever witness the amazing and comical mating flight of a male woodcock? I did once, during an evening of fishing on a stream that netted me not one single strike for three hours of

constant casting. Have you ever taken time to watch a colony of ants at work milking aphids? I did that, too, on another day when the fish were indisposed. What do you know, really, of the snakes, the frogs, the insects, the small woods animals, the trees, the mosses, ferns, mushrooms, the water plants and algae, the minnows darting in the shallows?

So then, be patient. Observe, and learn, for by so doing you will enhance enjoyment and prepare yourself for those slow hours on fishless days. Indeed, there'll always be days like that. When they come, remember Uncle Snazzy, who was not, as they said, "just right in the head." Sit quietly. Relax. Look about you. Think. Fishing is a contemplative art. Learn how to enjoy the bad days, too.

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